

WM-FX473/FX475

SERVICE MANUAL

*AEP Model
E Model*

WM-FX473/FX475 is the Radio Cassette Player.
The mechanical and electrical specifications of
WM-FX473/FX475 are almost same as WM-FX453/FX455.
So this manual contains only the points which differ from
WM-FX453/FX455 service manual (9-923-169-11) and
supplement-1 (9-923-169-81) previously issued.
The FR (FRENCH) model is almost same as the AEP model.

• PARTS LIST

WM-FX453/455				WM-FX473/475			
EXPLODED VIEWS				EXPLODED VIEWS			
Ref. No.	Part No.	Description	Remarks	Part No.	Description	Remarks	
8	3-007-086-02	HOLDER, CASSETTE (BLACK) (FX455)		3-007-086-41	HOLDER, CASSETTE (BLACK) (FX475)		
8	3-007-086-12	HOLDER, CASSETTE (BLUE) (FX455: AEP)		3-007-086-51	HOLDER, CASSETTE (BLUE) (FX475: AEP, FR)		
8	3-007-086-22	HOLDER, CASSETTE (SILVER) (FX455: AEP)		3-007-086-61	HOLDER, CASSETTE (SILVER) (FX475: AEP, FR)		
8	3-007-086-31	HOLDER, CASSETTE (GREEN) (FX455: AEP)		3-007-087-51	HOLDER, CASSETTE (BLACK) (FX473)		
8	3-007-087-02	HOLDER, CASSETTE (BLACK) (FX453)		3-007-087-61	HOLDER, CASSETTE (BLUE) (FX473: AEP)		
8	3-007-087-12	HOLDER, CASSETTE (BLUE) (FX453: AEP)		3-007-087-71	HOLDER, CASSETTE (SILVER) (FX473: AEP)		
8	3-007-087-22	HOLDER, CASSETTE (GREEN) (FX453: AEP)		3-007-087-81	HOLDER, CASSETTE (GREEN) (FX473: AEP, FR)		
8	3-007-087-31	HOLDER, CASSETTE (GOLD) (FX453: AEP)					
8	3-007-087-42	HOLDER, CASSETTE (SILVER) (FX453: AEP)					
14	A-3016-916-A	MAIN BOARD, COMPLETE (FX453: AEP, IT, E)		A-3016-916-A	MAIN BOARD, COMPLETE (FX473: AEP, IT, E, 9E)		
14	A-3016-918-A	MAIN BOARD, COMPLETE (FX453: EE)		A-3016-918-A	MAIN BOARD, COMPLETE (FX473: EE)		
14	A-3016-920-A	MAIN BOARD, COMPLETE (FX455: AEP, E)		A-3016-920-A	MAIN BOARD, COMPLETE (FX475: AEP, E, 9E)		
14	A-3016-921-A	MAIN BOARD, COMPLETE (FX455: EE)		A-3016-921-A	MAIN BOARD, COMPLETE (FX475: EE)		
14	A-3016-972-A	MAIN BOARD, COMPLETE (FX455: C&SA)		A-3021-067-A	MAIN BOARD, COMPLETE (FX475: FR)		
14	A-3016-973-A	MAIN BOARD, COMPLETE (FX453: C&SA)		A-3021-068-A	MAIN BOARD, COMPLETE (FX473: FR)		
15	X-3373-471-1	CABINET (REAR) SUB ASSY (BLACK) (FX453: E, C&SA)		X-3374-788-1	CABINET (REAR) SUB ASSY (BLACK) (E, 9E, EE)		
15	X-3373-472-1	CABINET (REAR) SUB ASSY (BLACK) (FX453: AEP, IT)		X-3374-848-1	CABINET (REAR) SUB ASSY (BLACK) (FX473: AEP, IT, FR)		
15	X-3373-473-1	CABINET (REAR) SUB ASSY (BLUE, GREEN, GOLD, SILVER) (FX453: AEP)		X-3374-849-1	CABINET (REAR) SUB ASSY (BLACK) (FX475: AEP, FR)		
15	X-3373-474-1	CABINET (REAR) SUB ASS (BLACK) (FX453: EE)		X-3374-850-1	CABINET (REAR) SUB ASSY (BLACK) (FX475: AEP, FR)		
15	X-3373-475-1	CABINET (REAR) SUB ASSY (BLACK) (FX455: AEP)		X-3374-949-1	CABINET (REAR) SUB ASSY (FX473: AEP, FR)		
15	X-3373-476-1	CABINET (REAR) SUB ASSY (BLACK) (FX455: E, C&SA)					
15	X-3373-477-1	CABINET (REAR) SUB ASSY (BLACK) (FX455: EE)					
15	X-3373-923-1	CABINET (REAR) SUB ASSY (BLACK) (FX455: AEP)					

RADIO CASSETTE PLAYER



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WM-FX453/FX455				WM-FX473/FX475			
ELECTRACAL PARTS LIST				ELECTRACAL PARTS LIST			
Ref. No.	Part No.	Description	Remarks	Part No.	Description	Remarks	
	A-3016-916-A	MAIN BOARD, COMPLETE (FX453: AEP, IT, E)		A-3016-916-A	MAIN BOARD (FX473: AEP, IT, E, 9E)		
	A-3016-918-A	MAIN BOARD, COMPLETE (FX453: EE)		A-3016-918-A	MAIN BOARD (FX473: EE)		
	A-3016-920-A	MAIN BOARD, COMPLETE (FX455: AEP, E)		A-3016-920-A	MAIN BOARD (FX475: AEP, E, 9E)		
	A-3016-921-A	MAIN BOARD, COMPLETE (FX455: EE)		A-3016-921-A	MAIN BOARD (FX475: EE)		
	A-3016-972-A	MAIN BOARD, COMPLETE (FX455: C&SA)		A-3021-067-A	MAIN BOARD (FX475: FR)		
	A-3016-973-A	MAIN BOARD, COMPLETE (FX453: C&SA)		A-3021-068-A	MAIN BOARD (FX473: FR)		
		< FILTER >			< FILTER >		
CP1	1-236-711-31	FILTER, BAND PASS (EXCEPT EE)		1-236-711-31	FILTER, BAND PASS (EXCEPT EE, FR)		
CP1	1-239-813-21	FILTER, BAND PASS (EE)		1-239-813-21	FILTER, BAND PASS (EE)		
CP1				1-236-711-21	FILTER, BAND PASS (FR)		
*****				*****			
ACCESSORIES & PACKING MATERIALS				ACCESSORIES & PACKING MATERIALS			
*****				*****			
	3-858-915-11	MANUAL, INSTRUCTION (AEP, IT, EE)		3-861-152-11	MANUAL, INSTRUCTION (AEP, FR, IT, EE)		
		(ENGLISH, FRENCH, GERMAN, ITALIAN)			(ENGLISH, FRENCH, GERMAN, ITALIAN)		
	3-858-915-21	MANUAL, INSTRUCTION (AEP)		3-861-152-21	MANUAL, INSTRUCTION (AEP)		
		(DUTCH, SWEDISH, SPANISH, PORTUGUESE)			(SPANISH, DUTCH, SWEDISH, PORTUGUESE)		
	3-858-915-31	MANUAL, INSTRUCTION (AEP)		3-861-152-31	MANUAL, INSTRUCTION (AEP)		
		(POLISH, CZECH, GREEK, TURKISH)			(POLISH, CZECH, GREEK, TURKISH)		
	3-858-915-41	MANUAL, INSTRUCTION (AEP, EE)		3-861-152-41	MANUAL, INSTRUCTION (AEP, EE)		
		(RUSSIAN, HUNGARIAN, BULGARIAN)			(RUSSIAN, HUNGARIAN, BULGARIAN, FINNISH)		
	3-858-915-61	MANUAL, INSTRUCTION (E)		3-861-152-51	MANUAL, INSTRUCTION (E)		
		(ENGLISH, SPANISH, CHINESE, KOREAN)			(ENGLISH, CHINESE, KOREAN)		
	3-858-915-71	MANUAL, INSTRUCTION (9E)		3-861-152-61	MANUAL, INSTRUCTION (9E)		
		(ENGLISH, SPANISH, CHINESE, KOREAN)			(ENGLISH, CHINESE, KOREAN)		
	8-953-130-90	HEADPHONE MDR-E801//K SET		8-953-130-90	HEADPHONE MDR-E801//K SET (FX475: E, 9E)		
				8-953-224-90	HEADPHONE MDR-E802LP//K SET		
					(FX475: AEP, FR, EE/FX473)		

WM-FX453/FX455

SERVICE MANUAL

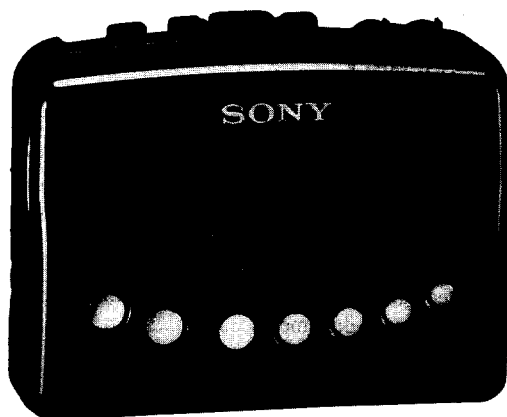


Photo : WM-FX455

US Model

WM-FX455

Canadian Model

WM-FX453

AEP Model

E Model

WM-FX453/FX455

Dolby noise reduction manufactured under license from
Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol  are trademarks of
Dolby Laboratories Licensing Corporation.

Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MF-WMFX453-114

SPECIFICATIONS

Frequency range	FM : 65.0 – 74, 87.5 – 108 MHz (East European model) 87.5 – 108 MHz (EXCEPT East European model) AM : 530 – 1710kHz (US, Canadian model) 531 – 1602kHz (EXCEPT US, Canadian model)
Power requirements	3V DC batteries R6 (AA) x2/External DC 3V power sources
Dimensions	112.5x87.3x35.2 mm (4 1/2 x 3 1/2 x 1 7/16 inches) (w/h/d) incl. projecting parts and controls
Mass	Approx. 160g (5.7 oz)
Supplied accessories	Approx. 245g (8.7 oz) incl. batteries, a cassette and headphones Stereo headphones (1)/Belt clip (1)

Design and specifications are subject to change without notice

RADIO CASSETTE PLAYER

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Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270°C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

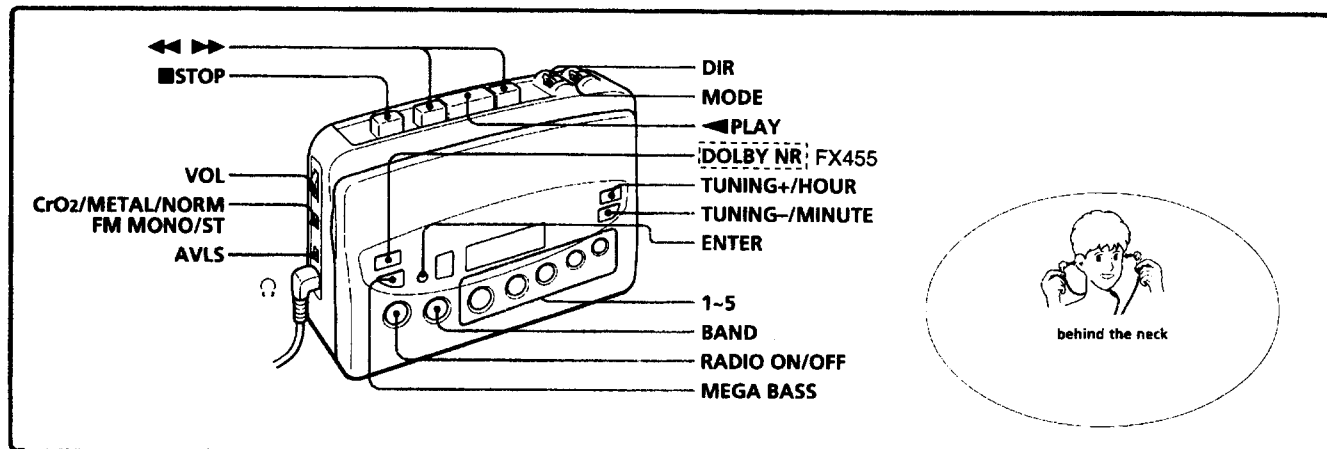
Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SECTION 1 GENERAL

This section is extracted from
instruction manual.

LOCATION OF PARTS AND CONTROLS



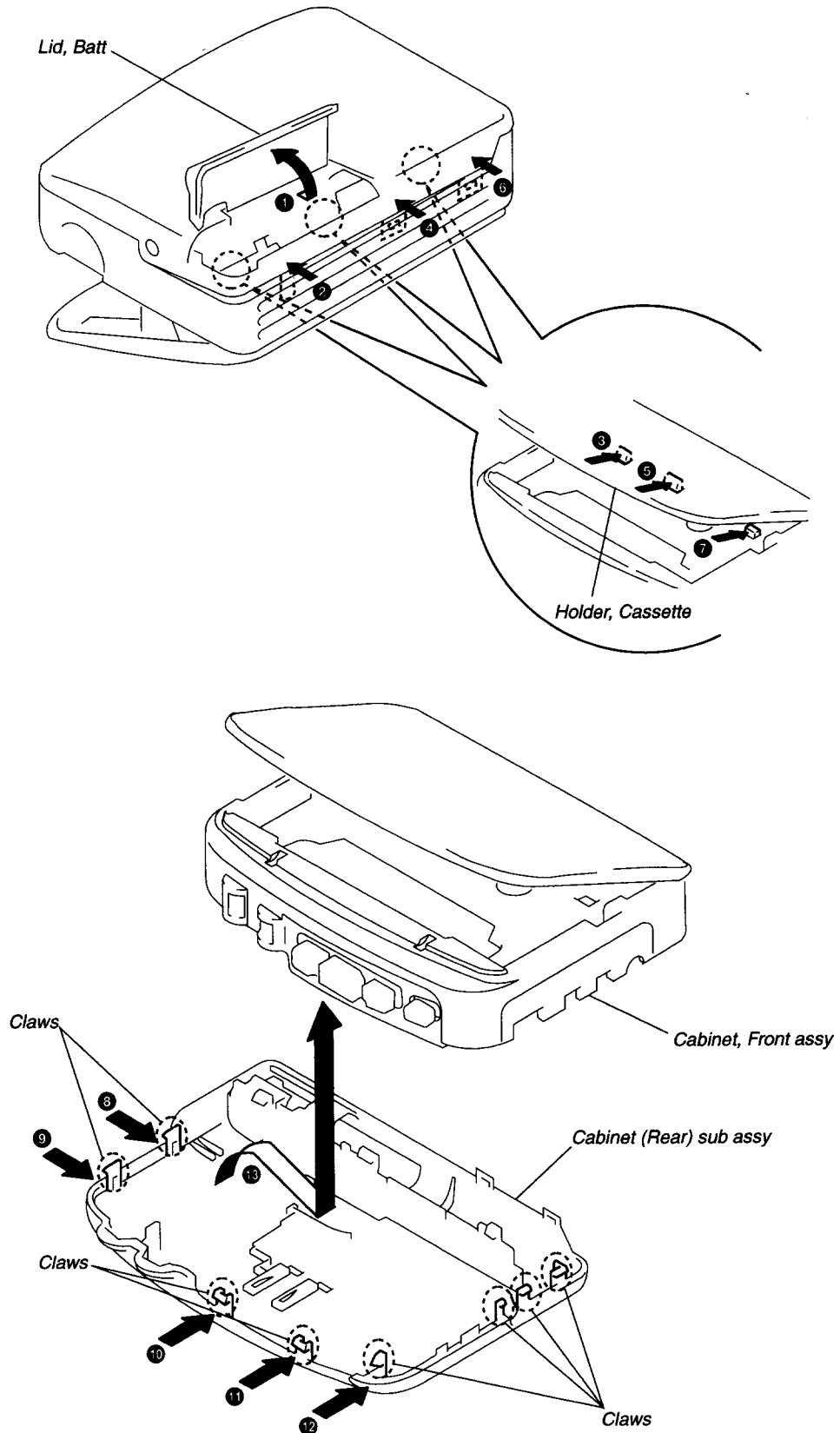
SECTION 2 DISASSEMBLY

- The equipment can be removed using the following procedure.

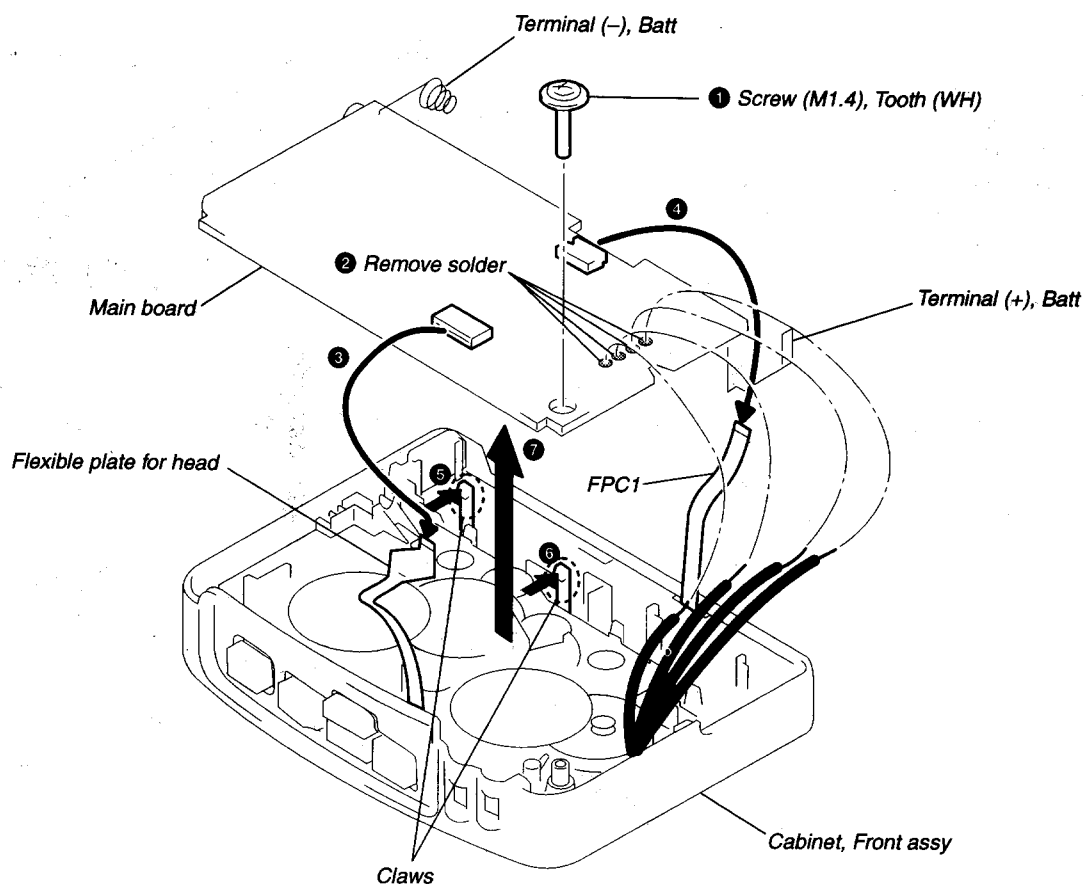
Set → Cabinet (rear) sub assy → Main board → Mechanism deck
Holder, cassette assy → Display board

Note : Follow the disassembly procedure in the numerical order given.

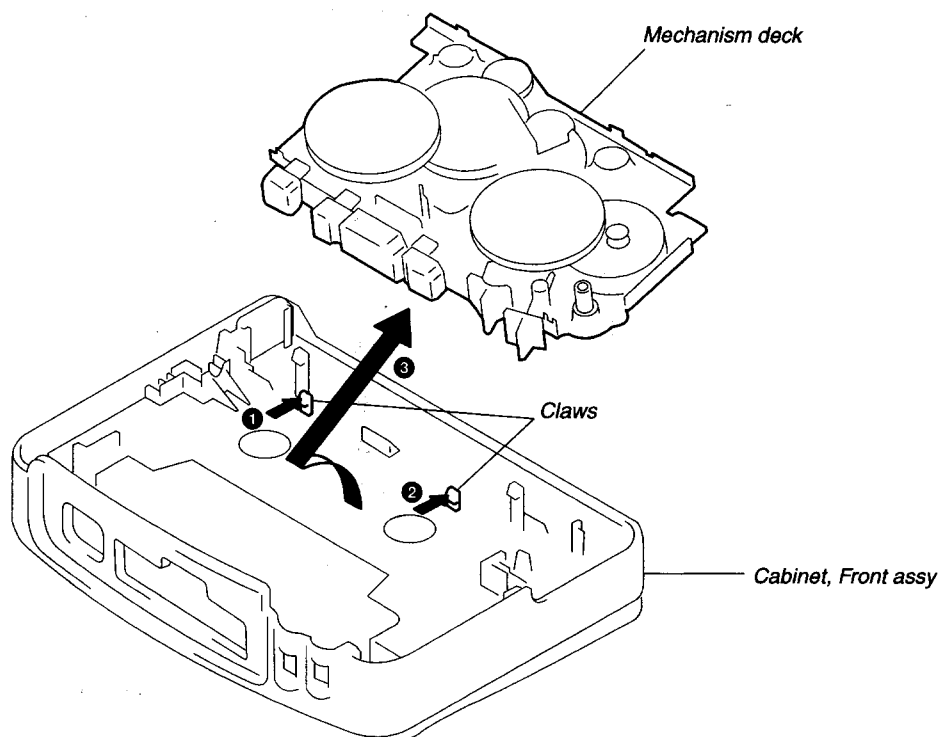
2-1. CABINET (REAR) SUB ASSY REMOVAL



2-2. MAIN BOARD REMOVAL



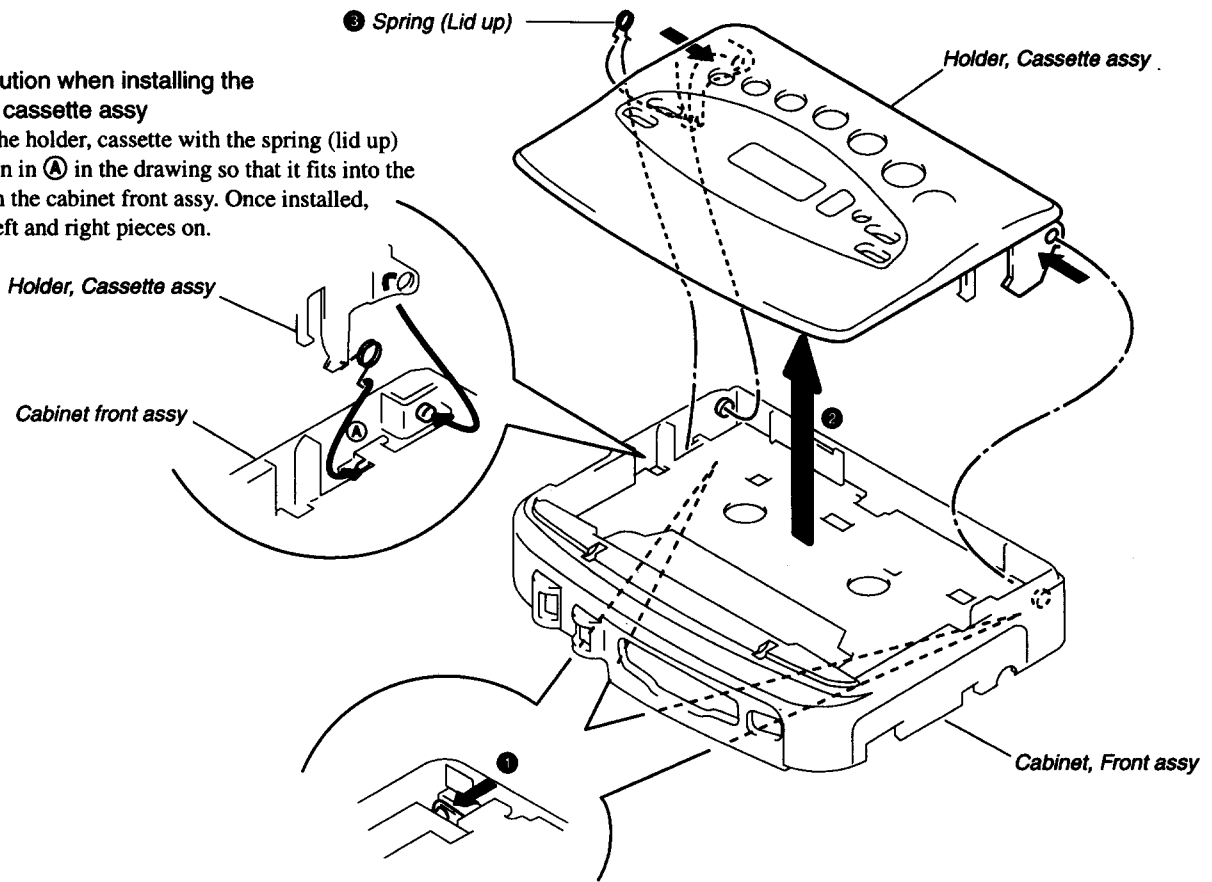
2-3. MECHANISM DECK REMOVAL



2-4. HOLDER, CASSETTE ASSY REMOVAL

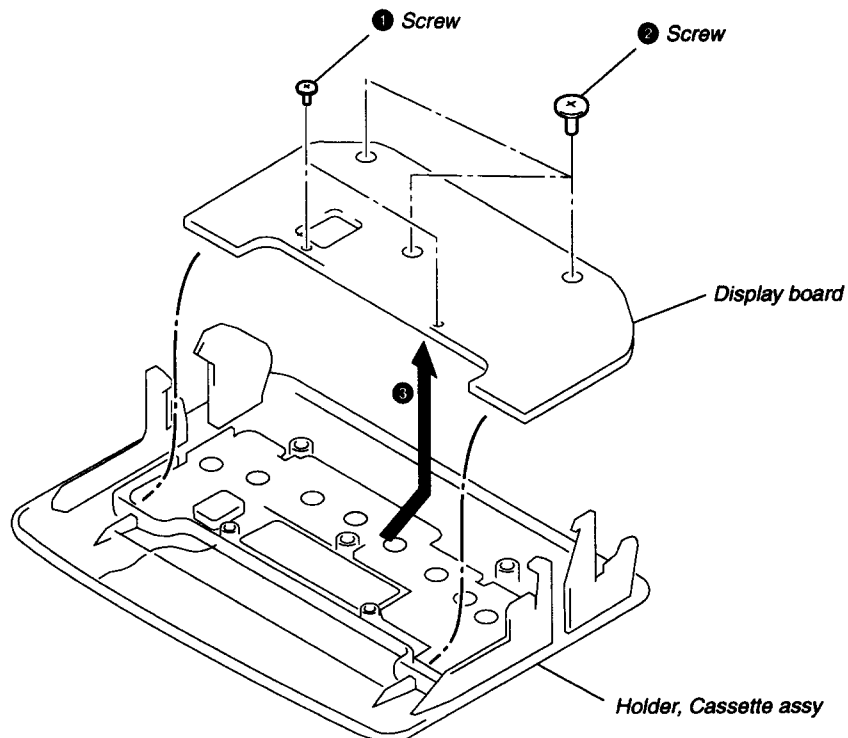
- Use caution when installing the holder, cassette assy

Install the holder, cassette with the spring (lid up) as shown in ① in the drawing so that it fits into the holes on the cabinet front assy. Once installed, fit the left and right pieces on.



- Press on the left & right clips from the rear of the cabinet front assy. and remove the boss.

2-5. DISPLAY BOARD REMOVAL



SECTION 3 ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :

playback head	pinch roller
capstan	rubber belt
2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage (2.5 V) unless otherwise noted.

Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	20 - 42 g • cm (0.28 - 0.58 oz • inch)
FWD back tension		less than 2 g • cm (less than 0.03 oz • inch)
REV	CQ-102RC	20 - 42 g • cm (0.28 - 0.58 oz • inch)
REV back tension		less than 2 g • cm (less than 0.03 oz • inch)
FF, REW	CQ-201B	more than 60 g • cm (more than 0.83 oz • inch)

3-2. ELECTRICAL ADJUSTMENTS

PRECAUTION

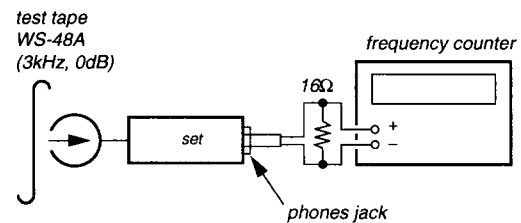
- Supplied voltage : 2.5V.
- Switch and control position
 - TAPE switch : NORM : NORM
 - MODE switch :
 - MEGA BASS switch : NORMAL
 - VOLUME control : maximum
 - AVLS switch : NORM
 - DOLBY switch : OFF (FX455)

Test Tape

Type	Signal	Used for
WS-48A	3kHz, 0dB	Tape Speed Adjustment

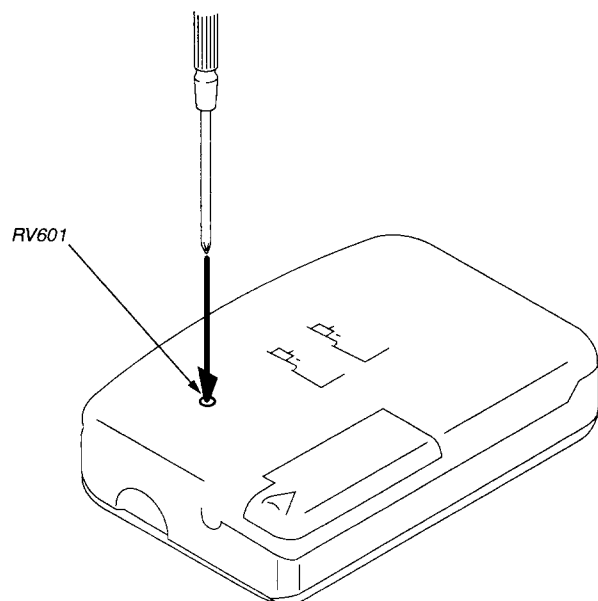
Tape Speed Adjustment

Procedure :



1. Playback WS-48A (tape center part) in the REV state and adjust RV601 so that the frequency counter reading becomes 2,985Hz $\pm$ 15Hz.
2. Playback WS-48A (tape center) in the FWD state.
Check that frequency counter reading is within 1.5% of the reading of step 1.

Adjustment Location :

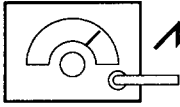


TUNER SECTION

AM Section

BAND : AM

AM RF signal generator



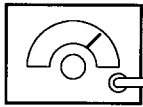
Put the lead-wire antenna close to the set.

30% amplitude modulation by 400Hz signal.
Output level : as low as possible

FM Section

BAND : FM

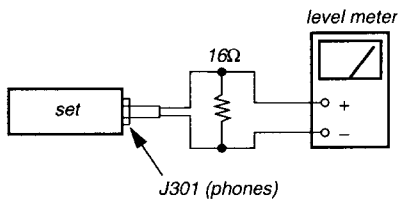
FM RF signal generator



0.01μF

(ANT TAP)
(GND)

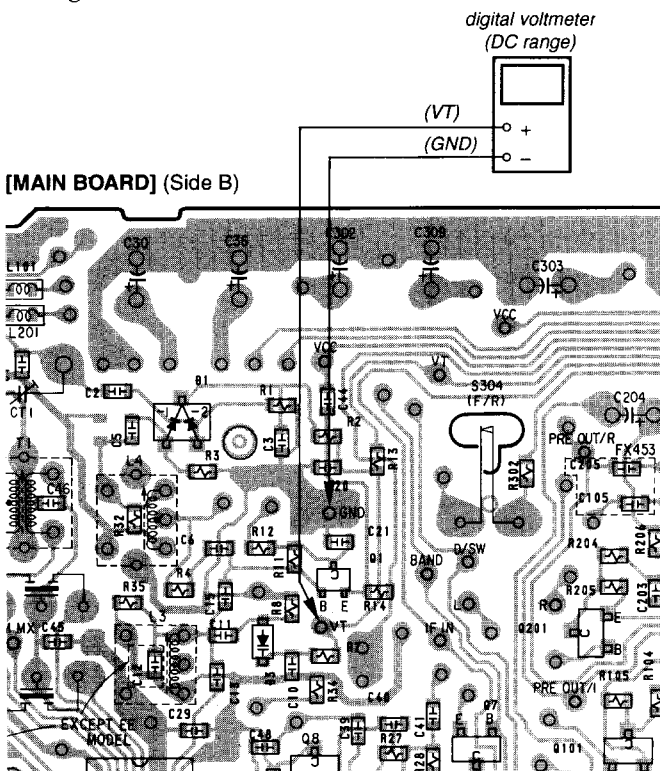
22.5kHz frequency deviation by 400Hz signal.
Output level : as low as possible



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

Frequency Coverage Adjustment

Setting :



no mark : US, Canadian model

< > : EXCEPT US, Canadian model

AM IF ALIGNMENT

Adjust for a maximum reading on level meter.

T1

1000kHz < 999kHz>

AM FREQUENCY COVERAGE ADJUSTMENT

Adjust part	Frequency display	reading on digital voltmeter.
L4	530kHz < 531kHz>	1.4±0.1V < 1.4±0.1V>
Confirmation	1,710kHz < 1,602kHz>	8.5±0.6V

AM TRACKING ADJUSTMENT

Adjust for a maximum reading on level meter.

L1

620kHz < 621kHz>

CT1

1,400kHz < 1,395kHz>

no mark : EXCEPT East European model

[] : East European model

FM FREQUENCY COVERAGE ADJUSTMENT

Adjust part	Frequency display	reading on digital voltmeter.
L3	87.5MHz [65MHz]	2.4±0.1V [1.8±0.1V]
Confirmation	108MHz [108MHz]	less than 10V [less than 16V]

FM TRACKING ADJUSTMENT

Adjust for a maximum reading on level meter.

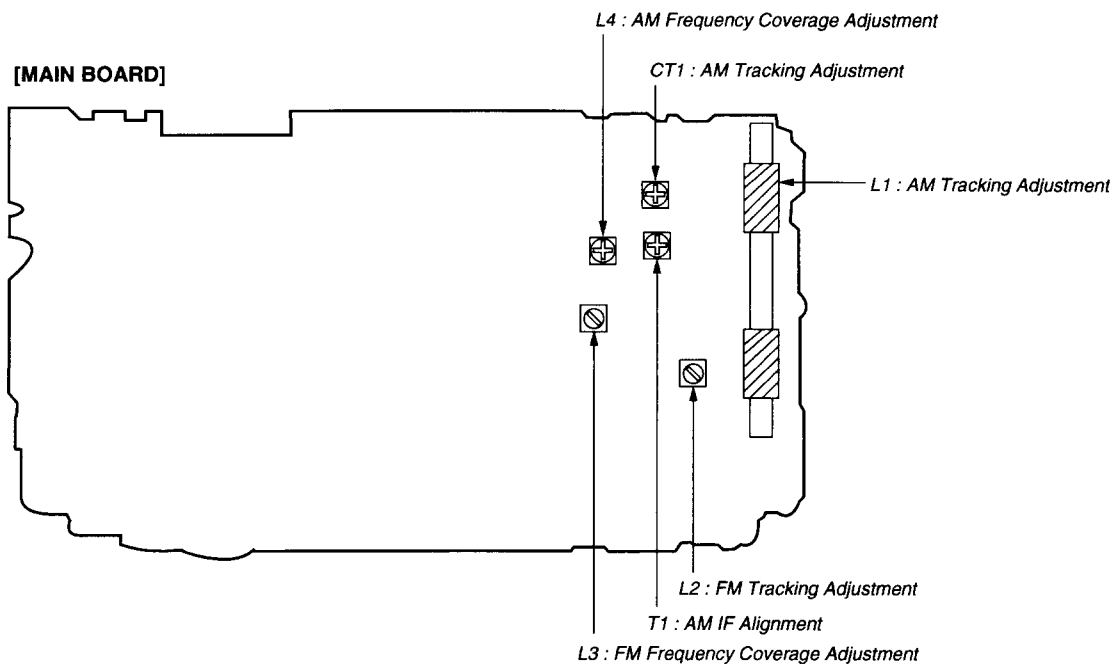
L2

87.5MHz [65MHz]

Confirmation

108MHz [108MHz]

Adjustment Location :

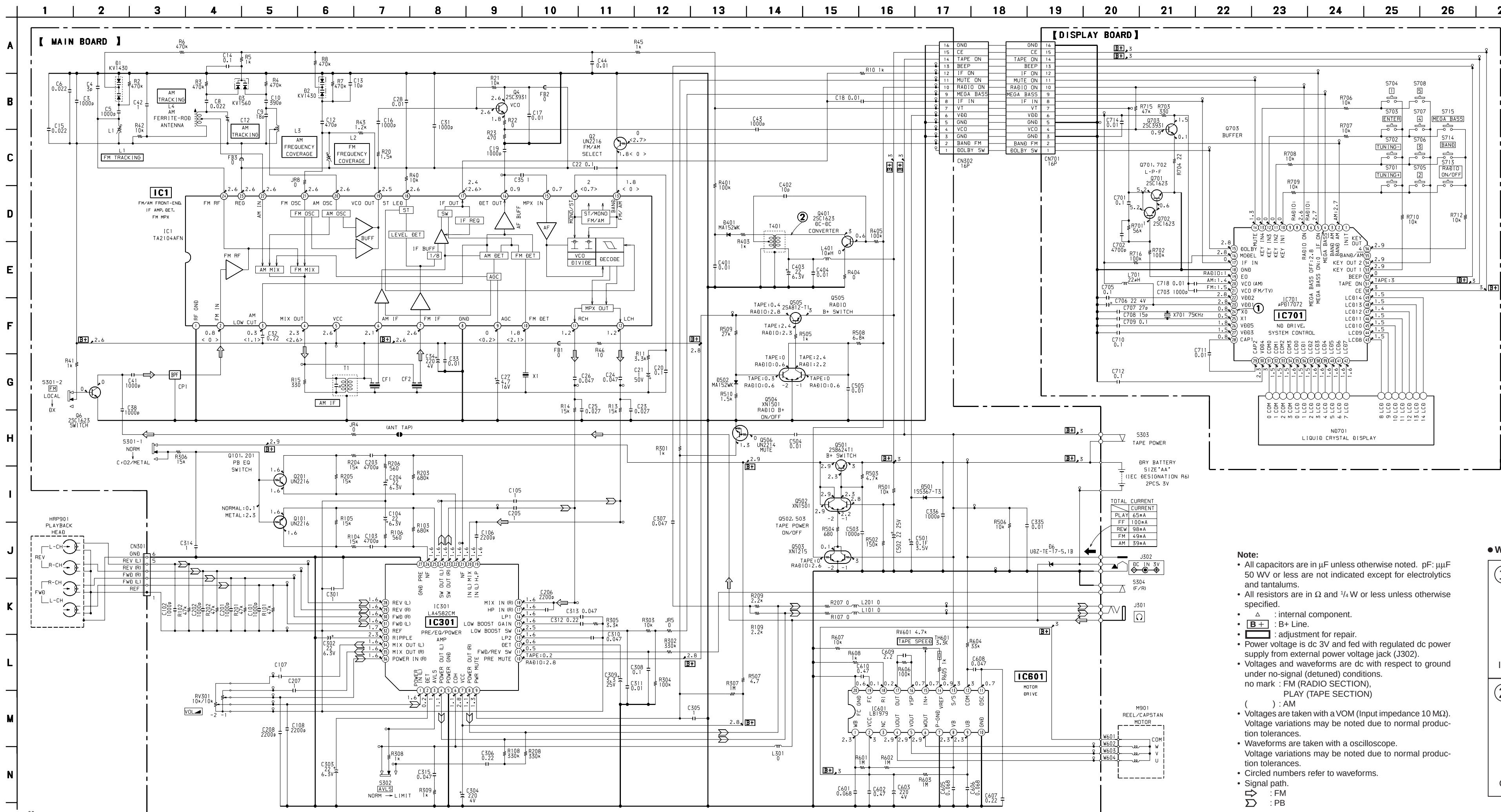


SECTION 4

EXPLANATION OF IC TERMINALS

IC701 μ PD17072GB-540-1A7 (ND DRIVE, SYSTEM CONTROL)

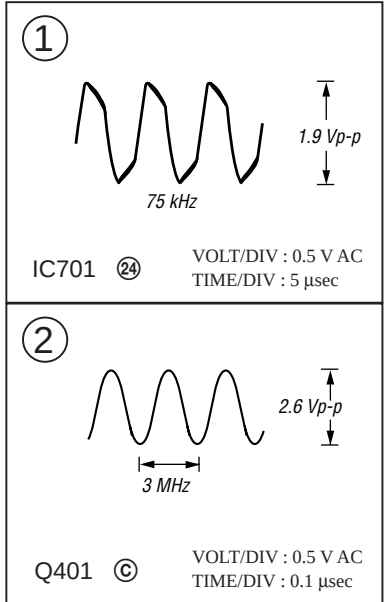
Pin No.	Pin name	I/O	Description
1	INIT	I	Key initial terminal.
2	BAND AM	O	BAND AM ON selection output.
3	BAND FM	O	BAND FM ON selection output.
4	MEGA BASS	I	MEGA BASS ON/OFF input.
5	IF ON	O	IF ON/OFF control.
6		–	Not used (Open).
7	RADIO ON	O	Radio power ON/OFF control.
8		–	Not used (Open).
9		–	Not used (Open).
10	KEY IN 1	I	Key input.
11	KEY IN 2	I	Key input.
12	KEY IN 3	I	Key input.
13	KEY IN 4	I	Key input.
14	MUTE	O	Mute signal output.
15	DOLBY	O	Dolby ON/OFF control.
16	MODEL	I	Model select terminal.
17	IF IN	I	IF signal input.
18	GND	–	Ground.
19	EO	O	PLL error output.
20	VCO (AM)	I	VCO input.
21	VCO (FM/TV)	I	VCO input.
22	V _{DD2}	–	Power supply terminal (+3V).
23	V _{DD1}	–	Power supply terminal (+3V).
24	X0	–	System clock oscillator (75kHz).
25	X1	–	System clock oscillator (75kHz).
26	V _{DD5}	–	Power supply (+3V).
27	V _{DD3}	–	Power supply (+3V).
28	CAP 1	–	Pins connecting capacitors for doubler circuits generating the ND drive voltage.
29	CAP 2	–	Pins connecting capacitors for doubler circuits generating the ND drive voltage.
30	V _{DD4}	–	Power supply (+3V).
31 – 34	COM 0 – 3	O	ND common output.
35 – 49	LCD 0 – 14	O	ND segment drive output.
50	CE	I	The internal reset circuit functions when low becomes high.
51	TAPE ON	I	TAPE ON signal input.
52	BEEP	O	BEEP signal output.
53	KEY OUT 1	O	Key scan output.
54	KEY OUT 2	O	Key scan output.
55	KEY OUT 3	O	Key scan output.
56	KEY OUT 4	O	Key scan output.



Note:

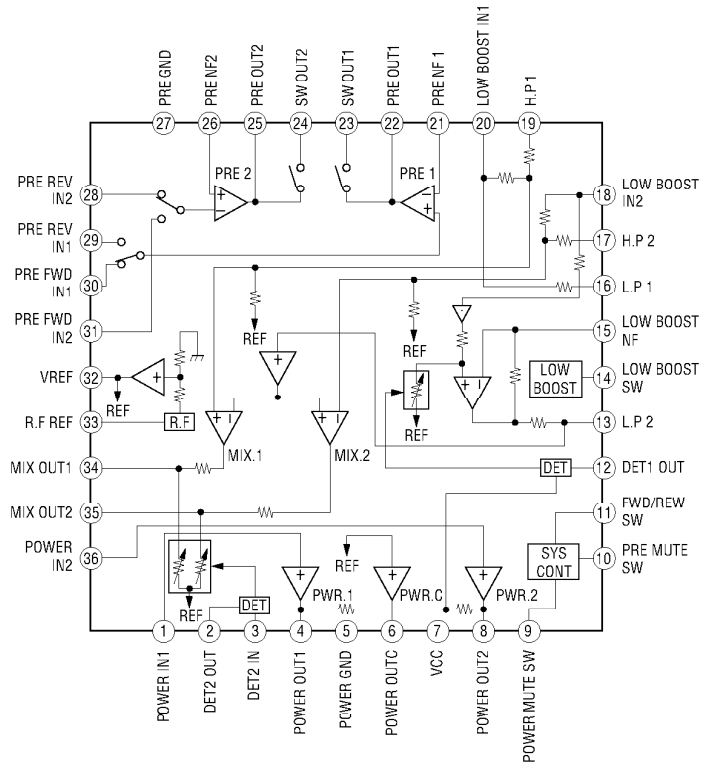
- All capacitors are in μF unless otherwise noted. pF : μF : 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- Δ : internal component.
- : B+ Line.
- : adjustment for repair.
- Power voltage is dc 3V and fed with regulated dc power supply from external power voltage jack (J302).
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark : FM (RADIO SECTION),
PLAY (TAPE SECTION)
- () : AM
- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
 - ➡ : FM
 - ➡ : PB

● Waveforms

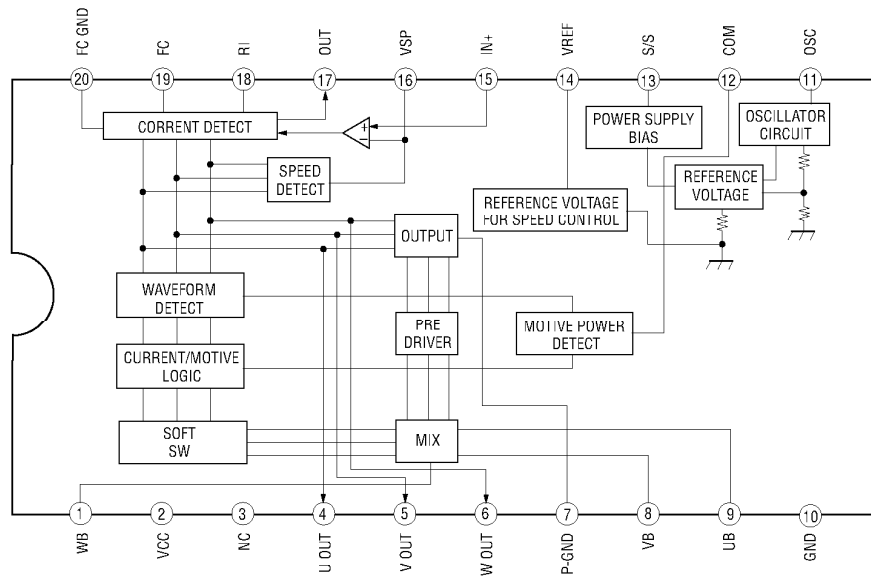


• IC BLOCK DIAGRAMS

IC301 LA4582CM



IC601 LB1979V-TLM



● **CHANGE OF EXPLODED VIEWS PARTS LIST**

(Supplement-2 See page 2)

Ref. No.	Before Change		After Change	
	Part No.	Description	Part No.	Description
3	A-3016-913-A	DISPLAY BOARD, COMPLETE (US, CND,5E)	A-3021-161-A	DISPLAY BOARD, COMPLETE (FX453 : US)
			A-3016-913-A	DISPLAY BOARD, COMPLETE (CND, 5E, FX455: US)
14	A-3016-914-A	MAIN BOARD, COMPLETE (FX453: US,CND)	A-3016-914-A	MAIN BOARD, COMPLETE (FX453: CND)
			A-3021-170-A	MAIN BOARD, COMPLETE (FX453 : US)

● ELECTRICAL PARTS LIST (WM-FX453 : US model only)

NOTE :

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms
METAL : Metal-film resistor
METAL OXIDE : Metal oxide-film resistor
F : nonflammable
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u : μ , for example :
uA.... : μ A.... , uPA.... : μ PA....
uPB.... : μ PB.... , uPC.... : μ PC....
uPD.... : μ PD....
- CAPACITORS
uF : μ F
- COILS
uH : μ H

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	A-3021-161-A	DISPLAY BOARD, COMPLETE (FX453 : US)				< RESISTOR >	

*	1-694-218-31	CONNECTOR, RUBBER		R701	1-216-842-11	METAL CHIP 56K 5% 1/16W	
*	3-007-090-01	HOLDER, LCD		R702	1-216-845-11	METAL CHIP 100K 5% 1/16W	
		< CAPACITOR >		R703	1-216-815-11	METAL CHIP 330 5% 1/16W	
				R704	1-216-801-11	METAL CHIP 22 5% 1/16W	
				R706	1-216-833-11	METAL CHIP 10K 5% 1/16W	
C701	1-107-826-91	CERAMIC CHIP 0.1uF 10% 16V		R707	1-216-833-11	METAL CHIP 10K 5% 1/16W	
C702	1-162-968-11	CERAMIC CHIP 0.0047uF 10% 50V		R708	1-216-833-11	METAL CHIP 10K 5% 1/16W	
C703	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V		R709	1-216-833-11	METAL CHIP 10K 5% 1/16W	
C705	1-107-826-91	CERAMIC CHIP 0.1uF 10% 16V		R710	1-216-833-11	METAL CHIP 10K 5% 1/16W	
C706	1-104-847-11	TANTAL. CHIP 22uF 20% 4V		R712	1-216-833-11	METAL CHIP 10K 5% 1/16W	
C707	1-162-920-11	CERAMIC CHIP 27PF 5% 50V		R715	1-216-841-11	METAL CHIP 47K 5% 1/16W	
C708	1-162-917-11	CERAMIC CHIP 15PF 5% 50V		R716	1-216-845-11	METAL CHIP 100K 5% 1/16W	
C709	1-107-826-91	CERAMIC CHIP 0.1uF 10% 16V				< VIBRATOR >	
C710	1-107-826-91	CERAMIC CHIP 0.1uF 10% 16V					
C711	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		X701	1-577-262-11	VIBRATOR, CRYSTAL (75kHz)	

C712	1-107-826-91	CERAMIC CHIP 0.1uF 10% 16V			A-3021-170-A	MAIN BOARD, COMPLETE (FX453 : US)	
C714	1-162-974-11	CERAMIC CHIP 0.01uF 50V				*****	
C718	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V					
		< CONNECTOR >					
CN701	1-573-925-11	CONNECTOR, FFC/FPC (ZIF) 16P		3-007-094-01	TERMINAL (+), BATTERY		
		< FLEXIBLE BOARD >		3-007-095-01	TERMINAL (-), BATTERY		
FPC1	1-655-731-11	PC BOARD, TUNER FLEXIBLE				< CAPACITOR >	
		< IC >					
IC701	8-759-564-19	IC uPD17072GB-555-1A7		C3	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
		< COIL >		C4	1-162-934-11	CERAMIC CHIP 3PF 0.25PF 50V	
L701	1-412-995-21	INDUCTOR 22uH		C5	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
		< LIQUID CRYSTAL DISPLAY >		C6	1-162-995-11	CERAMIC CHIP 0.022uF 50V	
				C8	1-162-995-11	CERAMIC CHIP 0.022uF 50V	
ND701	1-801-520-11	DISPLAY PANEL, LIQUID CRYSTAL					
		< TRANSISTOR >		C9	1-162-918-11	CERAMIC CHIP 18PF 5% 50V	
Q701	8-729-120-28	TRANSISTOR 2SC1623-L5L6		C10	1-164-392-11	CERAMIC CHIP 390PF 5% 50V	
Q702	8-729-120-28	TRANSISTOR 2SC1623-L5L6		C12	1-162-962-11	CERAMIC CHIP 470PF 10% 50V	
Q703	8-729-423-55	TRANSISTOR 2SC3931-D		C13	1-162-997-11	CERAMIC CHIP 10PF 0.5PF 50V	
				C14	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
				C15	1-162-995-11	CERAMIC CHIP 0.022uF 50V	
				C16	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
				C17	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
				C18	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
				C19	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
				C20	1-107-826-91	CERAMIC CHIP 0.1uF 10% 16V	
				C21	1-126-160-11	ELECT 1uF 20% 50V	
				C22	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
				C23	1-104-700-11	CERAMIC CHIP 0.027uF 10% 16V	

Ref. No.	Part No.	Description				Remark	Ref. No.	Part No.	Description				Remark
C24	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V		C601	1-164-344-11	CERAMIC CHIP	0.068uF	10%	25V	
							C602	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V	
C25	1-104-700-11	CERAMIC CHIP	0.027uF	10%	16V		C603	1-124-434-00	ELECT	220uF	20%	4V	
C26	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V		C605	1-164-344-11	CERAMIC CHIP	0.068uF	10%	25V	
C27	1-124-259-11	ELECT	4.7uF	20%	16V								
C28	1-162-974-11	CERAMIC CHIP	0.01uF		50V		C606	1-164-344-11	CERAMIC CHIP	0.068uF	10%	25V	
C31	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V		C607	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V	
							C608	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	
C32	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V		C609	1-164-505-11	CERAMIC CHIP	2.2uF		16V	
C33	1-162-974-11	CERAMIC CHIP	0.01uF		50V		C610	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V	
C34	1-124-434-00	ELECT	220uF	20%	4V								
C35	1-115-156-11	CERAMIC CHIP	1uF		10V				< FILTER >				
C38	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V								
							CF1	1-760-345-21	FILTER, CERAMIC				
C41	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V		CF2	1-781-152-11	FILTER, CERAMIC				
C42	1-115-156-11	CERAMIC CHIP	1uF		10V								
C43	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V				< CONNECTOR >				
C44	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V								
C101	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V		CN301	1-695-942-21	CONNECTOR, FPC (ZIF) 6P				
							CN302	1-573-925-11	CONNECTOR, FFC/FPC (ZIF) 16P				
C102	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V				< COMPOSITION CIRCUIT BLOCK >				
C103	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V								
C104	1-126-153-11	ELECT	22uF	20%	6.3V								
C105	1-115-156-11	CERAMIC CHIP	1uF		10V		CP1	1-236-711-21	FILTER, BAND PASS				
C106	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V				< TRIMMER >				
C107	1-115-156-11	CERAMIC CHIP	1uF		10V								
C108	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V		CT2	1-141-463-11	CAP, ADJ 10PF (AM TRACKING)				
C201	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V								
C202	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V				< DIODE >				
C203	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V								
							D1	8-719-062-15	DIODE KV1430-3/4-TL00				
C204	1-126-153-11	ELECT	22uF	20%	6.3V		D2	8-719-062-15	DIODE KV1430-3/4-TL00				
C205	1-115-156-11	CERAMIC CHIP	1uF		10V		D3	8-719-951-05	DIODE KV1560				
C206	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V		D6	8-719-976-99	DIODE DTZ5.1B				
C207	1-115-156-11	CERAMIC CHIP	1uF		10V		D401	8-719-801-78	DIODE 1SS184				
C208	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V								
							D501	8-719-049-09	DIODE 1SS367-T3SONY				
C301	1-115-156-11	CERAMIC CHIP	1uF		10V		D502	8-719-801-78	DIODE 1SS184				
C302	1-126-153-11	ELECT	22uF	20%	6.3V								
C303	1-126-153-11	ELECT	22uF	20%	6.3V				< FERRITE BEAD >				
C304	1-124-434-00	ELECT	220uF	20%	4V								
C305	1-115-156-11	CERAMIC CHIP	1uF		10V		FB1	1-414-760-21	FERRITE BEAD				
							FB2	1-414-760-21	FERRITE BEAD				
C306	1-165-128-11	CERAMIC CHIP	0.22uF		16V		FB3	1-414-760-21	FERRITE BEAD				
C307	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V								
C308	1-164-156-11	CERAMIC CHIP	0.1uF		25V				< IC >				
C309	1-126-162-11	ELECT	3.3uF	20%	50V								
C310	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V		IC1	8-759-564-18	IC TA2104AFN(EL)				
							IC301	8-759-285-29	IC LA4582CM				
C311	1-162-974-11	CERAMIC CHIP	0.01uF		50V		IC601	8-759-447-73	IC LB1979V-TLM				
C312	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V								
C313	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V				< JACK >				
C314	1-115-156-11	CERAMIC CHIP	1uF		10V								
C315	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V		J301	1-565-287-11	JACK (㏄)				
							J302	1-750-061-11	JACK,DC(POLARITY UNIFIED TYPE)				(DC IN 3V)
C335	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V								
C336	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V								
C401	1-162-974-11	CERAMIC CHIP	0.01uF		50V				< JUMPER RESISTOR >				
C402	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V								
C403	1-126-153-11	ELECT	22uF	20%	6.3V		JR4	1-216-864-11	METAL CHIP	0	5%	1/16W	
							JR5	1-216-864-11	METAL CHIP	0	5%	1/16W	
C404	1-162-974-11	CERAMIC CHIP	0.01uF		50V		JR8	1-216-864-11	METAL CHIP	0	5%	1/16W	
C501	1-117-579-11	DOUBLE LAYER	0.1F	0	3.5V								
C502	1-126-796-11	ELECT	22uF	20%	25V				< COIL >				
C503	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V								
C504	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V		L1	1-411-237-11	COIL (FM RF) (FM TRACKING)				
							L2	1-409-988-11	COIL (FM OSC) (FM FREQUENCY COVERAGE)				
C505	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V		L3	1-411-989-11	COIL (AM OSC) (AM FREQUENCY COVERAGE)				

Ref. No.	Part No.	Description	Remark
L4	1-501-868-11	ANTENNA, FERRITE-ROD (AM)	(AM TRACKING)
L101	1-414-760-21	FERRITE 0uH	
L201	1-414-760-21	FERRITE 0uH	
L301	1-414-760-21	INDUCTOR CHIP 0uH	
L401	1-412-991-11	INDUCTOR 10uH	
< TRANSISTOR >			
Q2	8-729-424-67	TRANSISTOR UN2216	
Q4	8-729-423-55	TRANSISTOR 2SC3931-D	
Q6	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q101	8-729-424-67	TRANSISTOR UN2216	
Q201	8-729-424-67	TRANSISTOR UN2216	
Q401	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q501	8-729-141-48	TRANSISTOR 2SB624-BV345	
Q502	8-729-402-13	TRANSISTOR XN1501	
Q503	8-729-403-17	TRANSISTOR XN1215	
Q504	8-729-402-13	TRANSISTOR XN1501	
Q505	8-729-216-22	TRANSISTOR 2SA1162-G	
Q506	8-729-900-52	TRANSISTOR DTC114YK	
< RESISTOR >			
R2	1-216-853-11	METAL CHIP 470K 5%	1/16W
R3	1-216-853-11	METAL CHIP 470K 5%	1/16W
R4	1-216-853-11	METAL CHIP 470K 5%	1/16W
R5	1-216-821-11	METAL CHIP 1K 5%	1/16W
R6	1-216-853-11	METAL CHIP 470K 5%	1/16W
R7	1-216-853-11	METAL CHIP 470K 5%	1/16W
R8	1-216-853-11	METAL CHIP 470K 5%	1/16W
R10	1-216-821-11	METAL CHIP 1K 5%	1/16W
R11	1-216-827-11	METAL CHIP 3.3K 5%	1/16W
R13	1-216-835-11	METAL CHIP 15K 5%	1/16W
R14	1-216-835-11	METAL CHIP 15K 5%	1/16W
R15	1-216-815-11	METAL CHIP 330 5%	1/16W
R20	1-216-823-11	METAL CHIP 1.5K 5%	1/16W
R21	1-216-833-11	METAL CHIP 10K 5%	1/16W
R22	1-216-864-11	METAL CHIP 0 5%	1/16W
R23	1-216-817-11	METAL CHIP 470 5%	1/16W
R40	1-216-833-11	METAL CHIP 10K 5%	1/16W
R41	1-216-821-11	METAL CHIP 1K 5%	1/16W
R42	1-216-833-11	METAL CHIP 10K 5%	1/16W
R43	1-216-822-11	METAL CHIP 1.2K 5%	1/16W
R45	1-216-821-11	METAL CHIP 1K 5%	1/16W
R46	1-216-797-11	METAL CHIP 10 5%	1/16W
R101	1-216-841-11	METAL CHIP 47K 5%	1/16W
R102	1-216-841-11	METAL CHIP 47K 5%	1/16W
R103	1-216-855-11	METAL CHIP 680K 5%	1/16W
R104	1-216-835-11	METAL CHIP 15K 5%	1/16W
R105	1-216-835-11	METAL CHIP 15K 5%	1/16W
R106	1-216-818-11	METAL CHIP 560 5%	1/16W
R107	1-216-864-11	METAL CHIP 0 5%	1/16W
R108	1-216-851-11	METAL CHIP 330K 5%	1/16W
R109	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
R201	1-216-841-11	METAL CHIP 47K 5%	1/16W
R202	1-216-841-11	METAL CHIP 47K 5%	1/16W
R203	1-216-855-11	METAL CHIP 680K 5%	1/16W
R204	1-216-835-11	METAL CHIP 15K 5%	1/16W

Ref. No.	Part No.	Description	Remark
R205	1-216-835-11	METAL CHIP 15K 5%	1/16W
R206	1-216-818-11	METAL CHIP 560 5%	1/16W
R207	1-216-864-11	METAL CHIP 0 5%	1/16W
R208	1-216-851-11	METAL CHIP 330K 5%	1/16W
R209	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
R301	1-216-821-11	METAL CHIP 1K 5%	1/16W
R302	1-216-851-11	METAL CHIP 330K 5%	1/16W
R303	1-216-833-11	METAL CHIP 10K 5%	1/16W
R304	1-216-845-11	METAL CHIP 100K 5%	1/16W
R305	1-216-827-11	METAL CHIP 3.3K 5%	1/16W
R306	1-216-835-11	METAL CHIP 15K 5%	1/16W
R307	1-216-857-11	METAL CHIP 1M 5%	1/16W
R308	1-216-821-11	METAL CHIP 1K 5%	1/16W
R309	1-216-821-11	METAL CHIP 1K 5%	1/16W
R401	1-216-845-11	METAL CHIP 100K 5%	1/16W
R403	1-216-821-11	METAL CHIP 1K 5%	1/16W
R404	1-216-864-11	METAL CHIP 0 5%	1/16W
R405	1-216-845-11	METAL CHIP 100K 5%	1/16W
R501	1-216-833-11	METAL CHIP 10K 5%	1/16W
R502	1-216-847-11	METAL CHIP 150K 5%	1/16W
R503	1-216-829-11	METAL CHIP 4.7K 5%	1/16W
R504	1-216-819-11	METAL CHIP 680 5%	1/16W
R505	1-216-821-11	METAL CHIP 1K 5%	1/16W
R506	1-216-833-11	METAL CHIP 10K 5%	1/16W
R507	1-216-793-11	RES,CHIP 4.7 5%	1/16W
R508	1-216-831-11	METAL CHIP 6.8K 5%	1/16W
R509	1-216-838-11	METAL CHIP 27K 5%	1/16W
R510	1-216-823-11	METAL CHIP 1.5K 5%	1/16W
R601	1-216-857-11	METAL CHIP 1M 5%	1/16W
R602	1-216-857-11	METAL CHIP 1M 5%	1/16W
R603	1-216-857-11	METAL CHIP 1M 5%	1/16W
R604	1-216-839-11	METAL CHIP 33K 5%	1/16W
R605	1-216-821-11	METAL CHIP 1K 5%	1/16W
R606	1-216-845-11	METAL CHIP 100K 5%	1/16W
R607	1-216-833-11	METAL CHIP 10K 5%	1/16W
R608	1-216-821-11	METAL CHIP 1K 5%	1/16W
< VARIABLE RESISTOR >			
RV301	1-225-362-11	RES, VAR, CARBON (VOL ▲)	
RV601	1-238-663-11	RES, ADJ, CARBON 4.7K (TAPE SPEED)	
< SWITCH >			
S301	1-692-298-11	SWITCH, SLIDE (LOCAL/DX, METAL/NORM)	
S302	1-692-298-11	SWITCH, SLIDE (AVLS)	
S303	1-762-917-11	SWITCH, DETECTION (SMALL TYPE)	(TAPE POWER)
S304	1-762-302-11	SWITCH, PUSH (1 KEY) (F/R)	
< TRANSFORMER >			
T1	1-406-694-11	COIL, AM IFT (AM IF)	
T401	1-426-917-11	TRANSFORMER, DC-DC CONVERTER	
< THERMISTOR >			
TH601	1-810-794-11	THERMISTOR, POSITIVE	

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
		< FILTER >	
X1	1-781-172-11	DISCRIMINATOR, CERAMIC (10.7MHz)	

		MISCELLANEOUS	

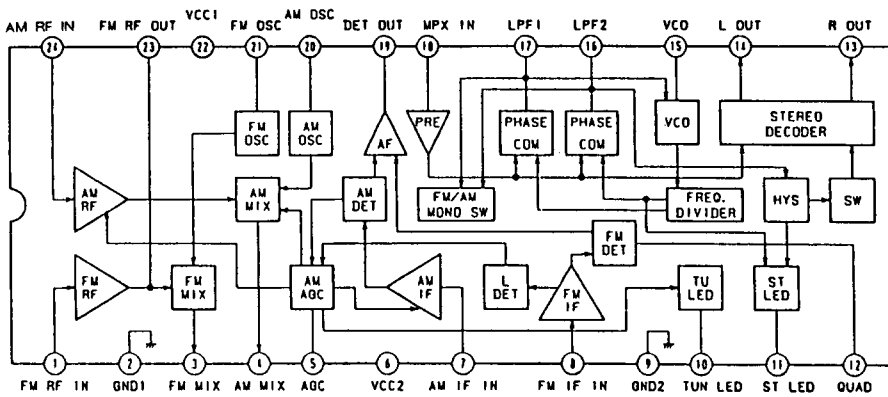
* 4	1-694-218-31	CONNECTOR, RUBBER	
FPC1	1-655-731-11	PC BOARD, TUNER FLEXIBLE	
HRP901	1-500-404-11	HEAD, MAGNETIC	
L4	1-501-868-11	ANTENNA, FERRITE-ROD (AM)	
		(AM TRACKING)	
M901	1-763-073-11	MOTOR (INCLUDING PULLEY)	
ND701	1-801-520-11	DISPLAY PANEL, LIQUID CRYSTAL	

		ACCESSORIES & PACKING MATERIALS	

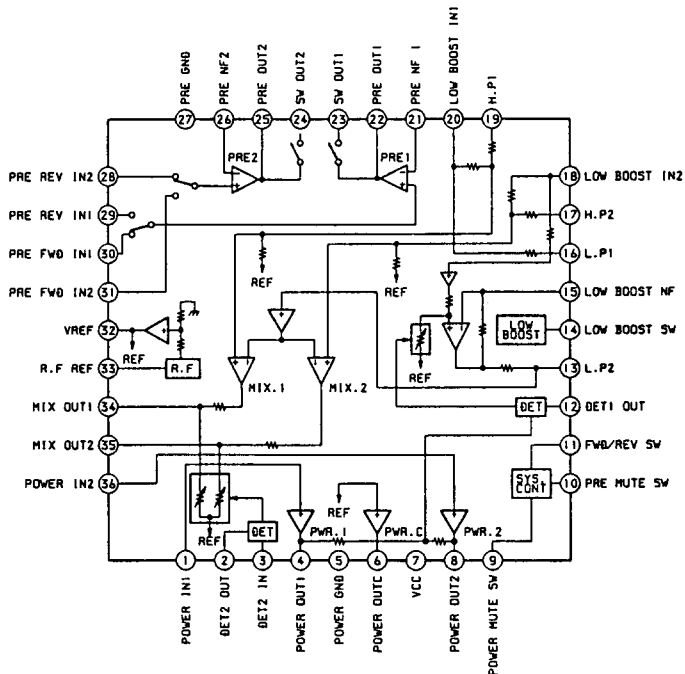
	1-505-521-11	HEADPHONE (MDR-023) (FX453 : US)	
	3-007-111-01	CLIP, BELT	
	3-858-915-51	MANUAL, INSTRUCTION (US,Canadian)	
		(ENGLISH, FRENCH)	

● IC BLOCK DIAGRAMS

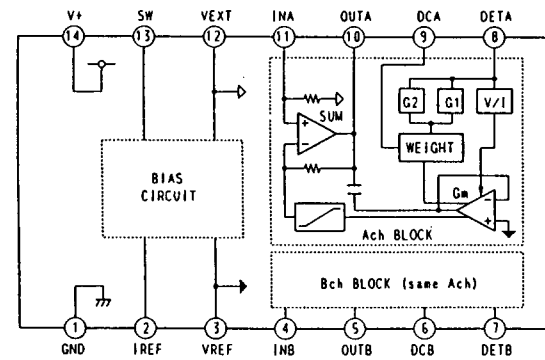
IC1 TA8122AF



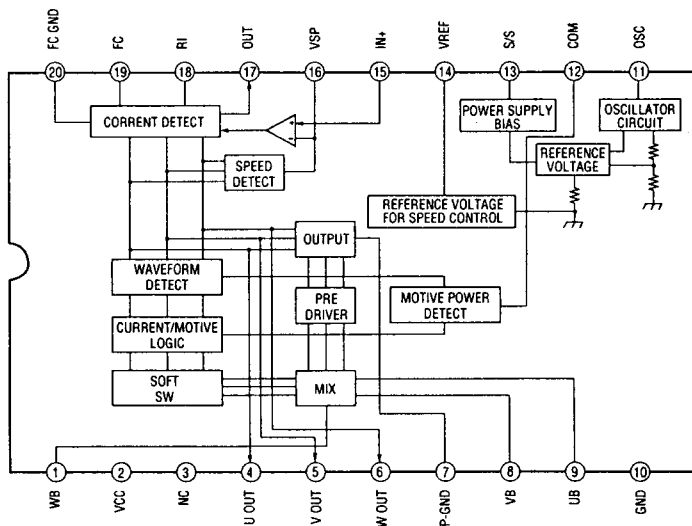
IC301 LA4582CM (WM-FX453)
IC301 LA4585M-TLM (WM-FX455)



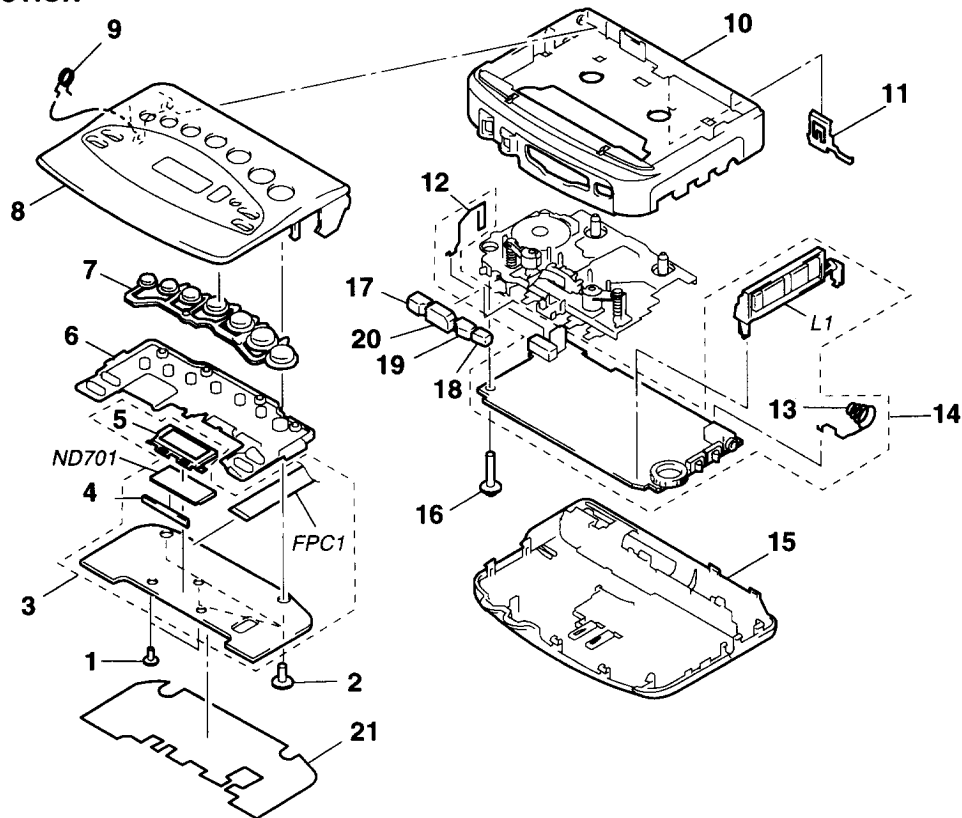
IC331 NJM2185VT-TE2



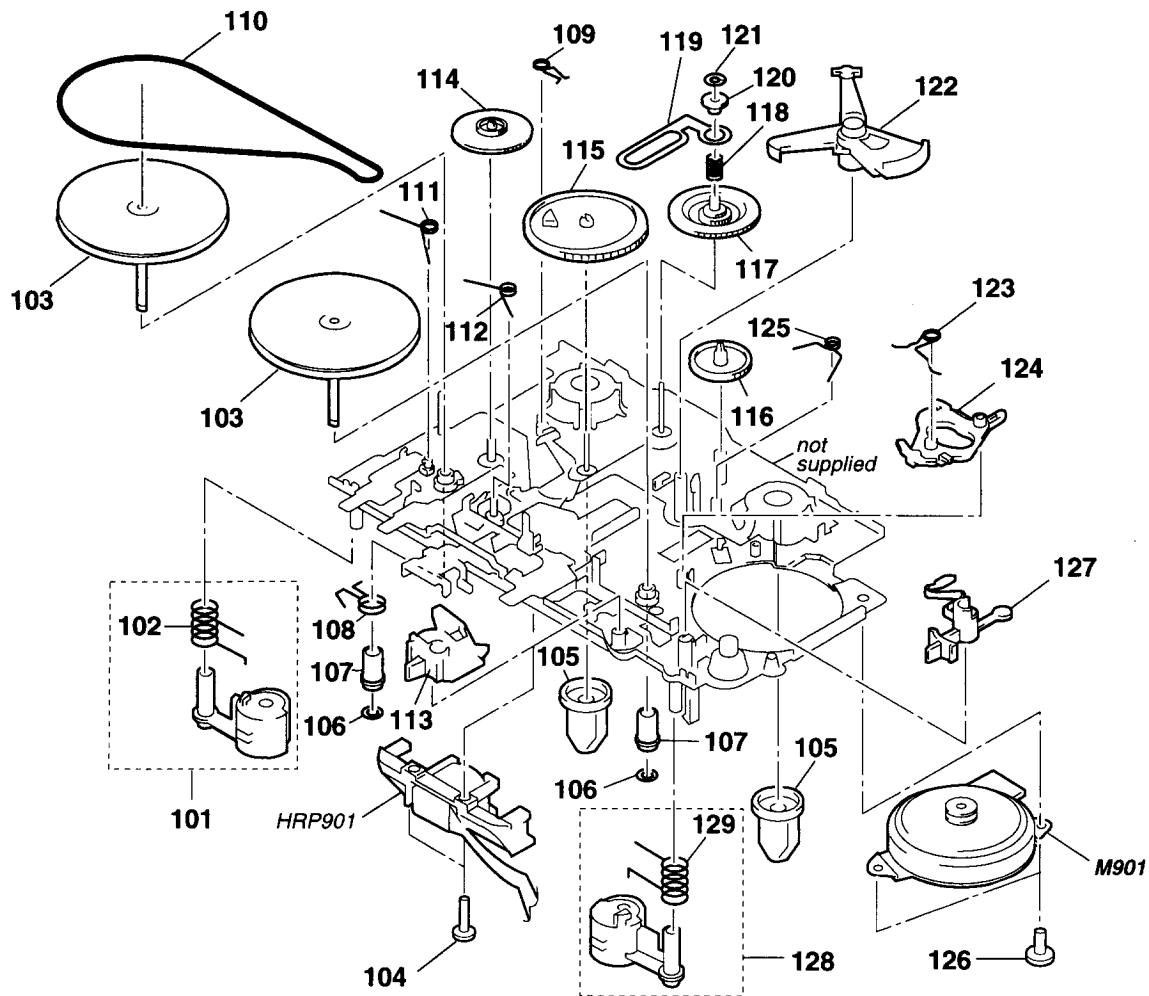
IC601 LB1979V-TLM



6-1. CABINET SECTION



6-2. MECHANISM SECTION (MF-WMFX453-114)



WM-FX453/FX455

SONY®

SERVICE MANUAL

US Model

WM-FX455

Canadian Model

WM-FX453

AEP Model

E Model

WM-FX453/FX455

SUPPLEMENT - 1

File this Supplement with the Service Manual.

Subject :

- **5E MODEL HAS BEEN ADDED FOR WM-FX453 AND WM-FX455**
- **CHANGE OF EXPLODED VIEWS**
- **CORRECTION**

(ECN-WM700712,WM700713,WM700940)

● MODEL ADDITION

1. The WM-FX453 (5E model) is approximately the same as the WM-FX453 (Canadian model).
 2. The WM-FX455 (5E model) is approximately the same as the WM-FX455 (US model).
- Consequently, only difference between 5E model and US, Canadian model are listed.
For other information, please refer to the previously issued WM-FX453/FX455 service manual (9-923-169-11).

● DIFFERENCE PARTS LIST

EXPLODED VIEWS (Service Manual See page 19)

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
14	A-3016-972-A	MAIN BOARD, COMPLETE (FX455 : 5E)	
14	A-3016-973-A	MAIN BOARD, COMPLETE (FX453 : 5E)	

ELECTRICAL PARTS LIST (Service Manual See page 21–24)

MAIN

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
	A-3016-972-A	MAIN BOARD, COMPLETE (FX455 : 5E)	
	A-3016-973-A	MAIN BOARD, COMPLETE (FX453 : 5E)	

R107	1-216-795-11	METAL GLAZE 6.8	5% 1/16W (5E)
R108	1-216-841-11	METAL CHIP 47K	5% 1/16W (5E)
R207	1-216-795-11	METAL GLAZE 6.8	5% 1/16W (5E)
R208	1-216-841-11	METAL CHIP 47K	5% 1/16W (5E)

ACCESSORIES & PACKING MATERIALS (Service Manual See page 24)

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
	8-953-130-90	HEADPHONE MDR-E801//K SET (5E)	
	3-858-915-81	MANUAL, INSTRUCTION	
		(SPANISH, PORTUGUESE) (5E)	

● Abbreviation

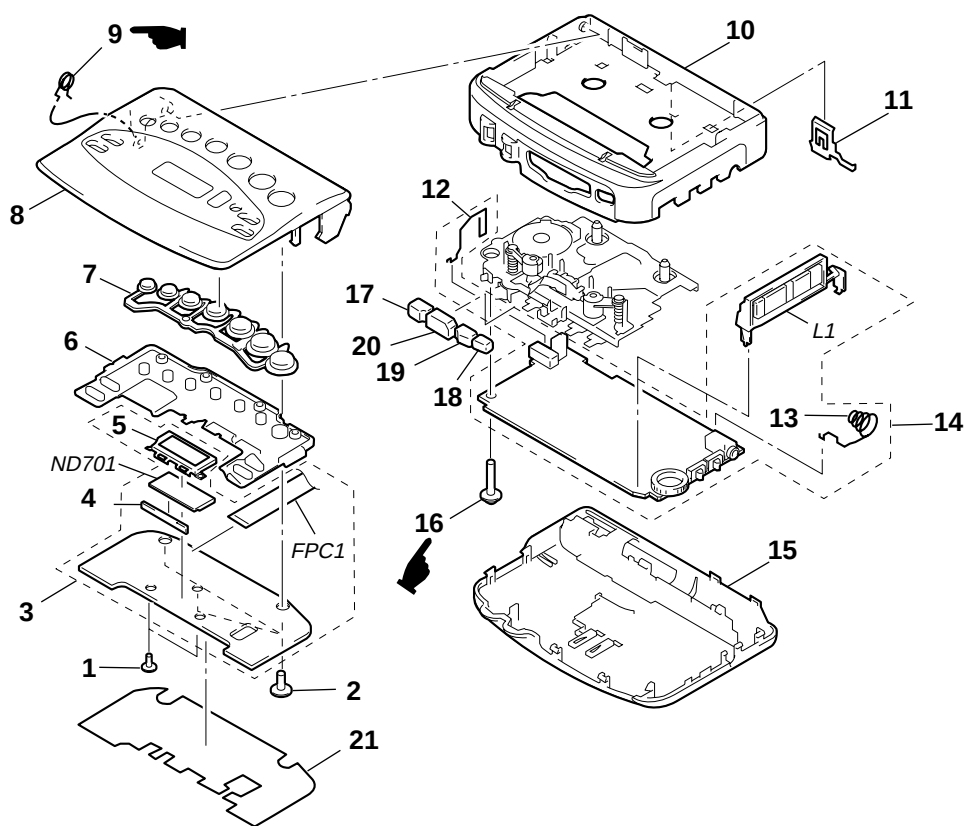
5E : Indication of country of origin, radio section : DX/LOCAL switch

● CHANGE OF EXPLODED VIEWS

 : Changed portion

Page 19

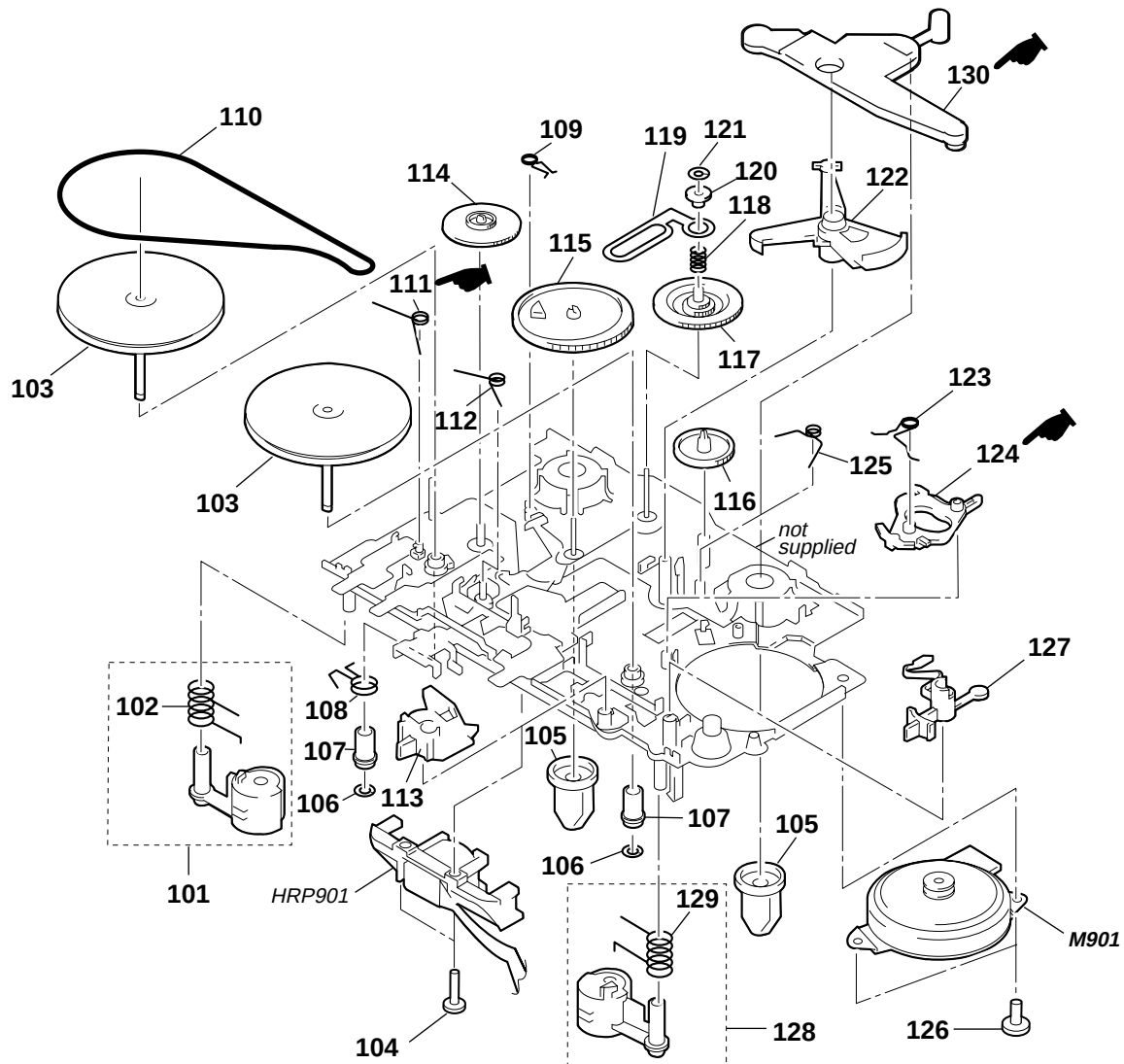
6-1. CABINET SECTION



Page 19

Ref. No.	Former Type		New type		Remark
	Part No.	Description	Part No.	Description	
9	3-921-954-01	SPRING (LID UP)	3-015-892-01	SPRING (LID UP)	Changed
16	3-008-599-01	SCREW (M1.4), TOOTH (WH)	3-015-285-01	SCREW (M1.4), TOOTHED LOOK (WH)	Changed

6-2. MECHANISM SECTION (MF-WMFX453-114)



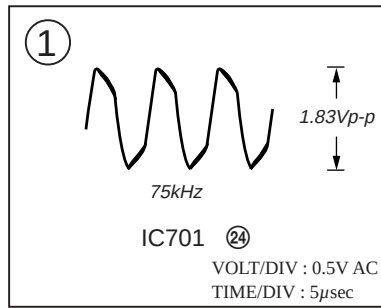
Ref. No.	Former Type		New type		Remark
	Part No.	Description	Part No.	Description	
111	3-920-992-01	SPRING (STOP)	3-015-436-01	SPRING (STOP)	Changed
124	3-921-022-01	LEVER (B), DETECTION	3-929-419-01	LEVER (BR), DETECTION	Changed
130			3-016-420-01	STOPPER (L)	Added

● CORRECTION

MAIN

Ref. No.	INCORRECT				CORRECT	
	Part No.	Description			Part No.	Description
C4	1-162-915-11	CERAMIC CHIP	10PF	0.5PF 50V		

● WAVEFORM



WM-FX453/FX455

SONY

SERVICE MANUAL

*US Model
AEP Model*

E Model

WM-FX453/FX455

Canadian Model

WM-FX453

SUPPLEMENT - 2

File this Supplement with the Service Manual.

Subject :

- **US MODEL HAS BEEN ADDED FOR WM-FX453**
- **CHANGE OF EXPLODED VIEWS**
- **CHANGE OF MAIN AND DISPLAY BOARDS**

(ECN-WM701638, WM800005)

● **MODEL ADDITION (WM-FX453 : US MODEL)**

The WM-FX453 (US model) is approximately the same as the WM-FX453 (Canadian model).

Consequently, only difference between US model and Canadian model are listed.

For other information, please refer to the previously issued WM-FX453/FX455 service manual (9-923-169-11) and supplement-1 (9-923-169-81).

● **DIFFERENCE PARTS LIST**

EXPLODED VIEWS (Service Manual see page 19)

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
15	X-3374-844-1	CABINET (REAR), SUB ASSY (BLACK) (FX453 : US)	

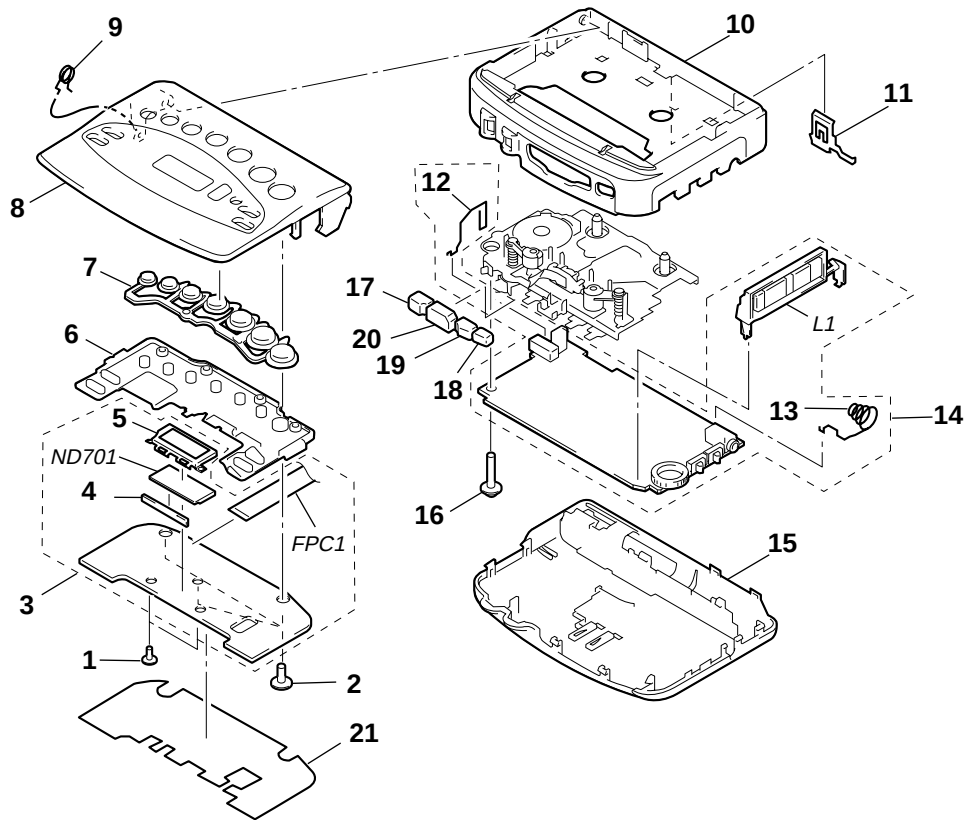
• CHANGE OF EXPLODED VIEWS

Page 19

6-1. CABINET SECTION

• Abbreviation

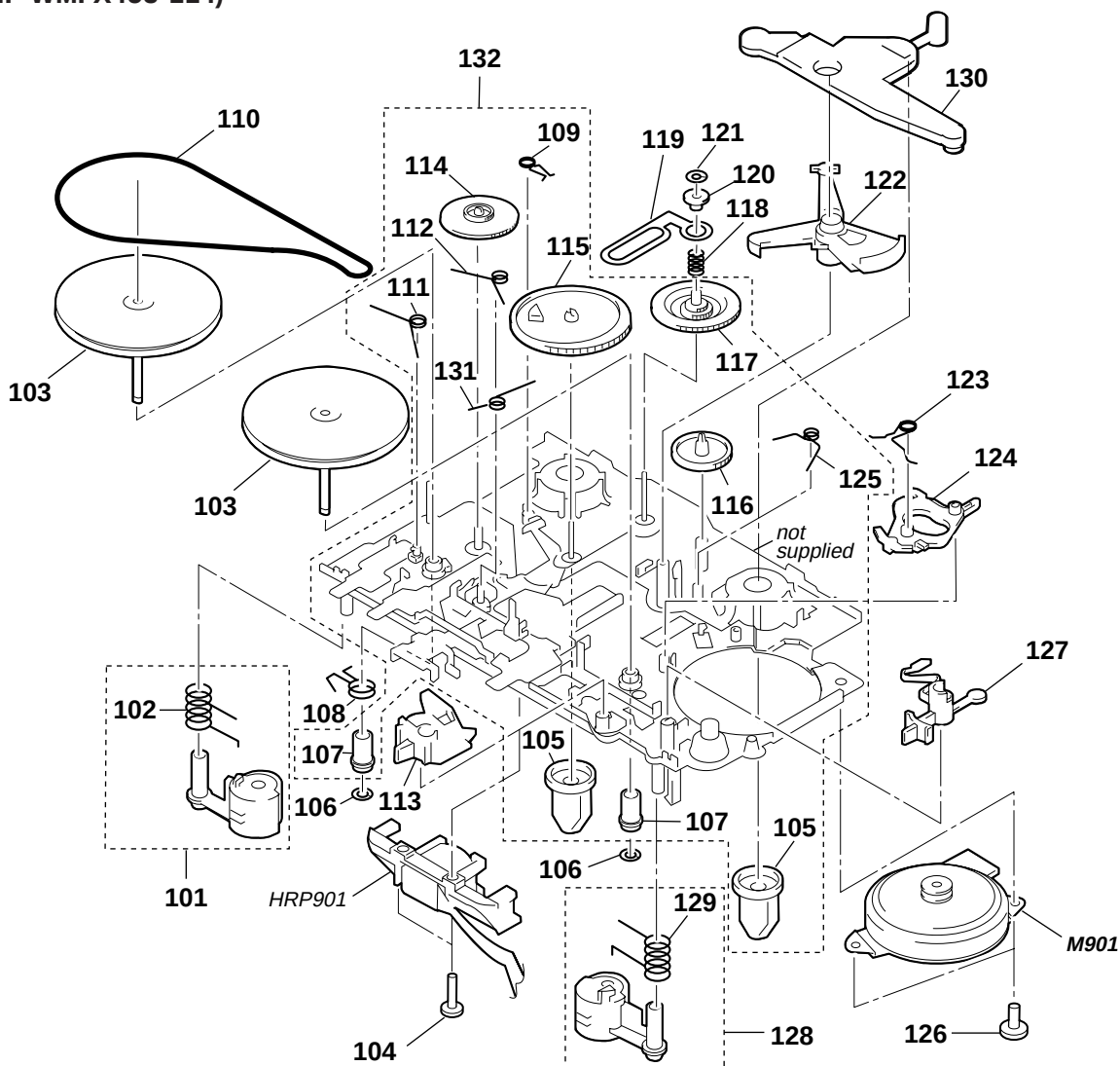
CND : Canadian EE : East European IT : Italian
 E : Indication of country of origin, radio section : FM MONO/ST switch
 5E : Indication of country of origin, radio section : DX/LOCAL switch
 9E : No indication of country of origin, radio section : FM MONO/ST switch



Ref. No.	Part No.	Description	Remark
1	3-008-298-01	SCREW	
2	3-011-112-01	SCREW	
3	A-3016-915-A	DISPLAY BOARD, COMPLETE (AEP,IT)	
3	A-3016-917-A	DISPLAY BOARD, COMPLETE (EE)	
3	A-3016-919-A	DISPLAY BOARD, COMPLETE (E,9E)	
3	A-3016-913-A	DISPLAY BOARD, COMPLET (US,CND,5E)	
* 4	1-694-218-31	CONNECTOR, RUBBER	
* 5	3-007-090-01	COVER, LCD	
6	3-007-088-01	BUTTON, RUBBER (FX455)	
6	3-008-520-01	BUTTON, RUBBER (FX453)	
7	3-007-089-01	BUTTON, PRESET	
8	3-007-086-02	HOLDER, CASSETTE (BLACK) (FX455)	
8	3-007-086-12	HOLDER, CASSETTE (BLUE) (FX455:AEP)	
8	3-007-086-22	HOLDER, CASSETTE (SILVER) (FX455:AEP)	
8	3-007-086-31	HOLDER, CASSETTE (GREEN) (FX455:AEP)	
8	3-007-087-02	HOLDER, CASSETTE (BLACK) (FX453)	
8	3-007-087-12	HOLDER, CASSETTE (BLUE) (FX453:AEP)	
8	3-007-087-22	HOLDER, CASSETTE (GREEN) (FX453:AEP)	
8	3-007-087-31	HOLDER, CASSETTE (GOLD) (FX453:AEP)	
8	3-007-087-42	HOLDER, CASSETTE (SILVER) (FX453:AEP)	
9	3-015-892-01	SPRING (LID UP)	
10	3-007-091-01	CABINET, FRONT (BLACK) (US,CND,5E)	
10	3-007-091-11	CABINET, FRONT (BLACK)	(EXCEPT US,CND,5E)
10	3-007-091-21	CABINET, FRONT (BLUE,GREEN,GOLD,SILVER)	(AEP)
11	3-916-016-01	SPRING (CASSETTE)	
12	3-007-094-01	TERMINAL (+), BATT	
13	3-007-095-01	TERMINAL (-), BATT	
14	A-3016-914-A	MAIN BOARD, COMPLETE (FX453:US,CND)	
14	A-3016-916-A	MAIN BOARD, COMPLETE (FX453:AEP,IT,E,9E)	
14	A-3016-918-A	MAIN BOARD, COMPLETE (FX453:EE)	

Ref. No.	Part No.	Description	Remark
14	A-3016-920-A	MAIN BOARD, COMPLETE (FX455:AEP,E,9E)	
14	A-3016-921-A	MAIN BOARD, COMPLETE (FX455:EE)	
14	A-3016-922-A	MAIN BOARD, COMPLETE (FX455:US)	
14	A-3016-972-A	MAIN BOARD, COMPLETE (FX455:5E)	
14	A-3016-973-A	MAIN BOARD, COMPLETE (FX453:5E)	
15	X-3374-471-1	CABINET (REAR) SUB ASSY (BLACK)	(FX453:CND, E, 5E)
15	X-3374-844-1	CABINET (REAR) SUB ASSY (BLACK)	(FX453:US)
15	X-3373-472-1	CABINET (REAR) SUB ASSY (BLACK)	(FX453:AEP,IT)
15	X-3373-473-1	CABINET (REAR) SUB ASSY (BLUE,GREEN, GOLD,SILVER) (FX453:AEP)	
15	X-3373-474-1	CABINET (REAR) SUB ASSY (BLACK)	(FX453:9E,EE)
15	X-3373-475-1	CABINET (REAR) SUB ASSY (BLACK)	(FX455:AEP)
15	X-3373-476-1	CABINET (REAR) SUB ASSY (BLACK)	(FX455:US,E,5E)
15	X-3373-477-1	CABINET (REAR) SUB ASSY (BLACK)	(FX455:9E,EE)
15	X-3373-923-1	CABINET (REAR) SUB ASSY(BLUE,GREEN, SILVER) (FX455:AEP)	
16	3-015-285-01	SCREW (M 1.4), TOOTHED LOCK (WH)	
17	3-007-107-01	BUTTON (REW)	
18	3-007-104-01	BUTTON (STOP)	
19	3-007-105-01	BUTTON (FF)	
20	3-007-106-01	BUTTON (PLAY)	
21	3-011-110-01	COVER, PCB	
FPC1	1-655-731-11	PC BOARD, TUNER FLEXIBLE	
L1	1-501-868-11	ANTENNA, FERRITE-ROD	
ND701	1-801-520-11	LCD	

6-2. MECHANISM SECTION (MF-WMFX453-114)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	X-3369-749-1	PINCH LEVER (N) ASSY		118	3-920-990-01	SPRING (UD), COMPRESSION	
102	3-920-996-01	SPRING (PINCH N)		119	3-921-335-01	WASHER, LEVER	
103	X-3372-619-1	WHEEL ASSY (P), CAPSTAN		120	3-923-530-01	SLEEVE (M)	
104	3-704-197-71	SCREW (M1.4)					
105	3-921-042-01	GEAR (REEL)		121	3-728-091-01	WASHER, STOPPER	
				122	3-921-052-01	LEVER (A), DETECTION	
106	3-921-797-01	WASHER		123	3-920-994-11	SPRING (D SELECTION)	
107	3-921-003-01	BEARING		124	3-929-419-01	LEVER (BR), DETECTION	
108	3-920-993-01	SPRING (NR)		125	3-938-628-01	SPRING (PLAY-CP)	
109	3-933-324-01	SPRING (FR LEVER)					
110	3-938-657-11	BELT		126	3-703-816-31	SCREW (M1.4), SPECIAL HEAD	
				127	3-921-023-01	LEVER, M SELECTION	
111	3-015-436-01	SPRING (STOP)		128	X-3369-748-1	PINCH LEVER (R) ASSY	
112	3-013-142-01	SPRING (FR-CP)		129	3-920-997-01	SPRING (PINCH R)	
113	3-921-053-01	LEVER, D SELECTION		130	3-016-420-01	STOPPER (L)	
114	3-921-043-01	GEAR (D)					
115	X-3369-752-1	CLUTCH ASSY		131	3-016-989-01	SPRING (SW-CP)	
				132	X-3372-960-1	CHASSIS COMP ASSY (GL-L)	
116	3-920-999-01	GEAR (A)		HRP901	1-500-404-11	HEAD, MAGNETIC (PLAYBACK)	
117	3-921-050-01	GEAR (B)		M901	1-698-839-11	MOTOR	

- **CHANGE OF MAIN AND DISPLAY BORADS**

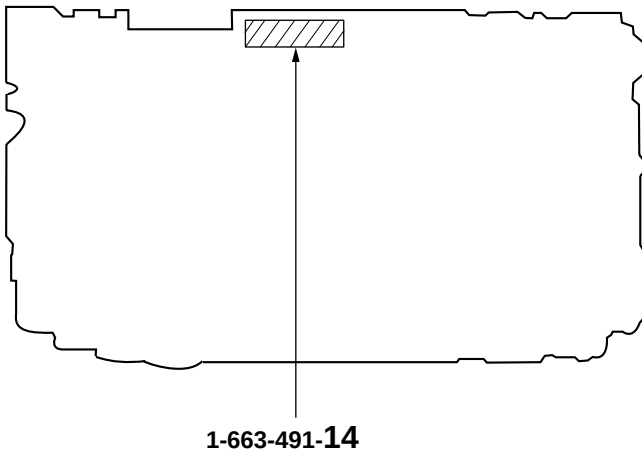
The main board and display board has been changed.

Main, display section printed wiring boards of new type, and changed parts list are described in this supplement-2.

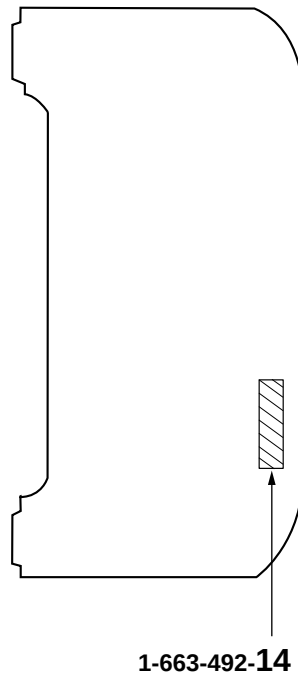
For other information, please refer to the previously issued WM-FX453/FX455 service manual (9-923-169-11) and supplement-1 (9-923-169-81).

NEW TYPE IDENTIFICATION

– **MAIN BOARD** (Component side) –



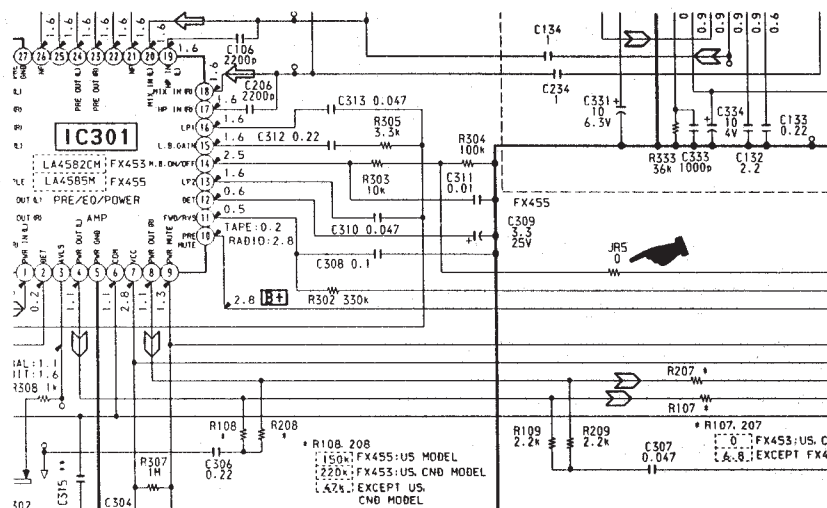
– **DISPLAY BOARD** (Component side) –



SCHEMATIC DIAGRAM (Service Manual see page 15 to 16)

(Location : 8 – 12, J – L)

👉 : Added portion



CHANGED ELECTRICAL PARTS LIST (Service Manual see page 23)

MAIN

Ref. No.	Part No.	Description			Remark
JR5	1-216-864-11	METAL CHIP	0	5%	1/16W

WM-FX453/FX455

SONY[®]

SERVICE MANUAL

Ver 1.0 1998. 06

US Model

AEP Model

E Model

WM-FX453/FX455

Canadian Model

Chinese Model

WM-FX453

SUPPLEMENT - 3

File this Supplement with the Service Manual.

Subject :

- 1. CHINESE MODEL AND 6E MODEL HAS BEEN ADDED FOR WM-FX453**
- 2. CHANGE OF MOTOR**

(ENG-98005)

1. MODEL ADDITION (WM-FX453 : Chinese, 6E MODEL)

The WM-FX453 (Chinese, 6E model) is approximately the same as the WM-FX453 (E, 5E model).

(Chinese Model corresponds to E model and 6E model corresponds to 5E model.)

Consequently, only difference between WM-FX453 (Chinese, 6E) model and WM-FX453 (E, 5E) model are listed.

For other information, please refer to the previously issued WM-FX453/FX455 service manual (9-923-169-11), supplement-1 (9-923-169-81) and Supplement-2 (9-923-169-82).

• Abbreviation

5E, 6E : Indication of country of origin, radio section : DX/LOCAL switch

• ACCESSORIES & PACKING MATERIALS (Service Manual See page 24 and Supplement-1 See page 2)

WM-FX453 : E, 5E MODEL			WM-FX453 : CHINESE, 6E MODEL		
Part No.	Description	Remark	Part No.	Description	Remark
3-858-915-61	MANUAL, INSTRUCTION (E) (ENGLISH, SPANISH, CHINESE, KOREAN)				
3-858-915-81	MANUAL, INSTRUCTION (SPANISH, PORTUGUESE)(5E)		3-858-915-83	MANUAL, INSTRUCTION (SPANISH, PORTUGUESE) (5E, 6E)	
			3-861-490-21	MANUAL, INSTRUCTION (ENGLISH, CHINESE) (Chinese)	

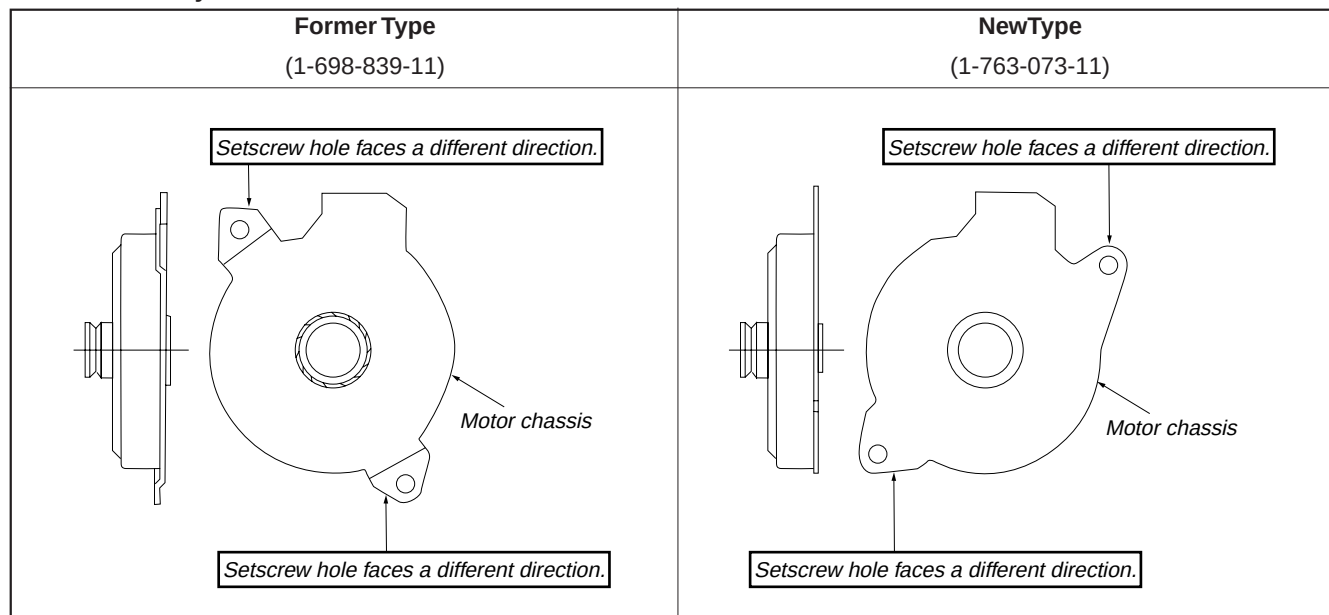
2. CHANGE OF MOTOR

A new motor has been issued for this equipment.

However, the maintenance deck and the outer cabinet are not compatible with this new motor and must also be replaced the same product when you replace the motor.

You can identify these different sets by the shape of the motor.

● How to identify the Motor



● EXPLODED VIEWS (Supplement-2 see page 2, 3 and Service Manual See Page <24>)

DIFFERENT PARTS LIST

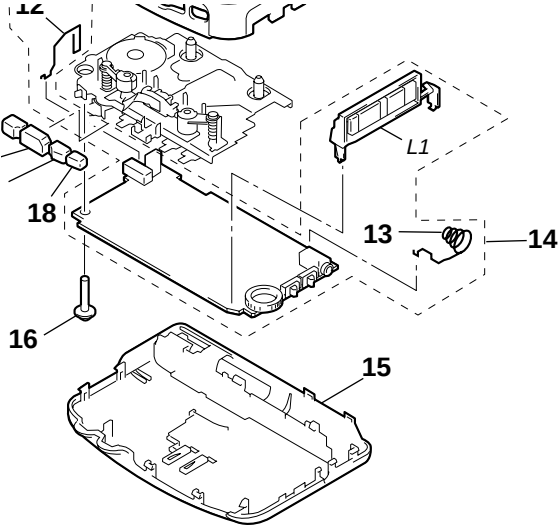
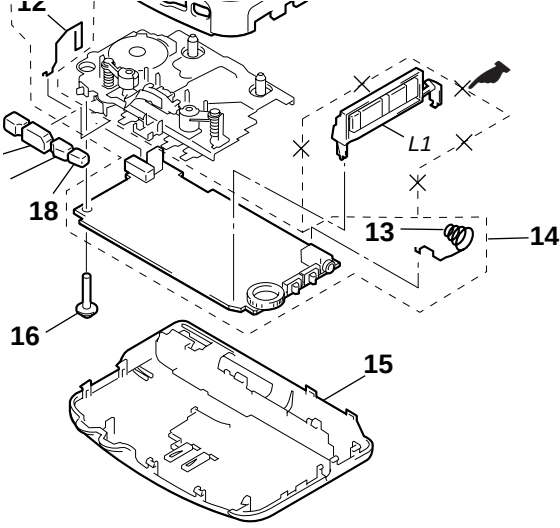
🔧 : Indicates Different portion

	Former Type				New Type		
Page	Ref. No.	Part No.	Description	Remark	Part No.	Description	Remark
	M901	1-698-839-11	MOTOR		1-763-073-11	MOTOR	
3, <24>							

CHANGED PARTS LIST (Supplement-2 See page 2, 3)

	Before change				After change		
Page	Ref. No.	Part No.	Description	Remark	Part No.	Description	Remark
2	9	3-015-892-01	SPRING (LID UP)		3-025-166-01	SPRING (LID UP)	
3	115	X-3369-752-1	CLUTCH ASSY		X-3375-837-1	CLUTCH ASSY	

- **CORRECTION**
- EXPLODED VIEWS** (Supplement-2 see page 2)
- : indicates corrected portion

page	INCORRECT	CORRECT
2		

WM-FX453/FX455

SONY

SERVICE MANUAL

Ver 1.0 1999. 01

US Model

AEP Model

E Model

WM-FX453/FX455

Canadian Model

Chinese Model

WM-FX453

SUPPLEMENT - 4

File this Supplement with the Service Manual.

Subject :

- **CHANGE OF BOARDS (WM-FX453 : US Model only)**
DISPLAY BOARD : 1-663-492-14 ➡ 1-670-650-12
MAIN BOARD : 1-663-491-14 ➡ 1-670-649-12

(ECN-WM801299/WM801300)

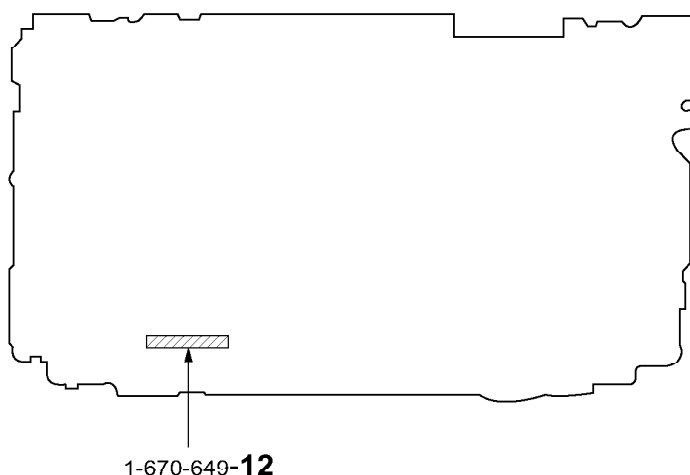
Due to this change, only electrical adjustment, explanation of IC terminals, printed wiring boards, schematic diagram and a electrical parts list of WM-FX453 (US model) are described in this supplement-4.

For other information, please refer to the previously issued WM-FX453/FX455 service manual (9-923-169-11), supplement-1 (9-923-169-81), Supplement-2 (9-923-169-82) and Supplement-3 (9-923-169-83).

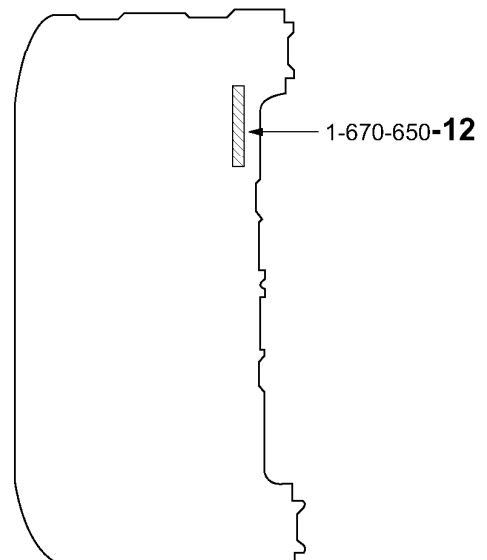
• **CHANGE OF BOARDS (WM-FX453 : US model only)**

NEW TYPE IDENTIFICATION

[MAIN BOARD] (SIDE B)



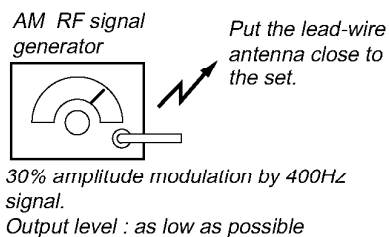
[DISPLAY BOARD] (SIDE A)



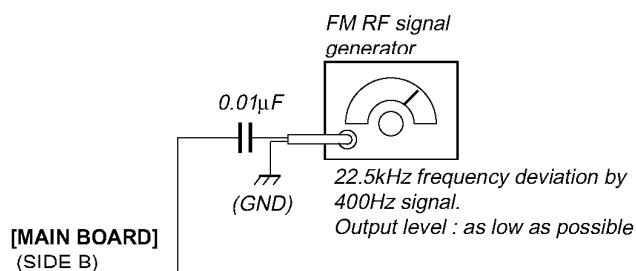
• **ELECTRICAL ADJUSTMENT**
(WM-FX453 : US model only)
 (Service Manual See page 8, 9)

TUNER SECTION 0dB = 1μV

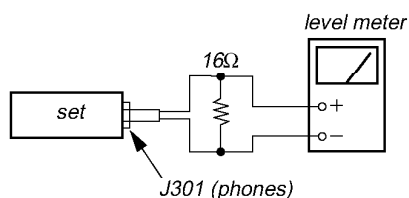
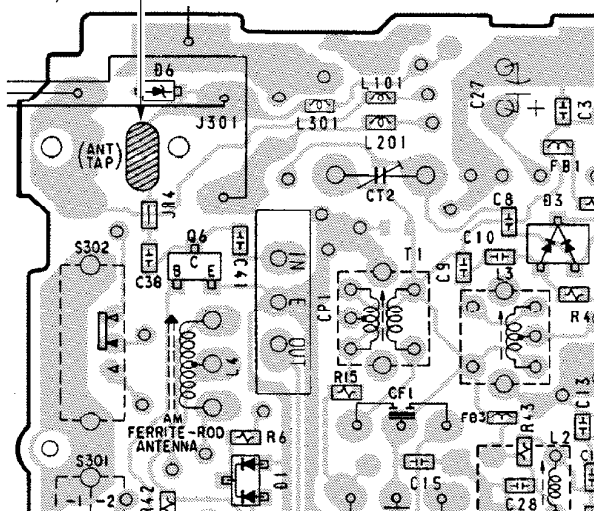
AM Section
 BAND : AM



FM Section
 BAND : FM



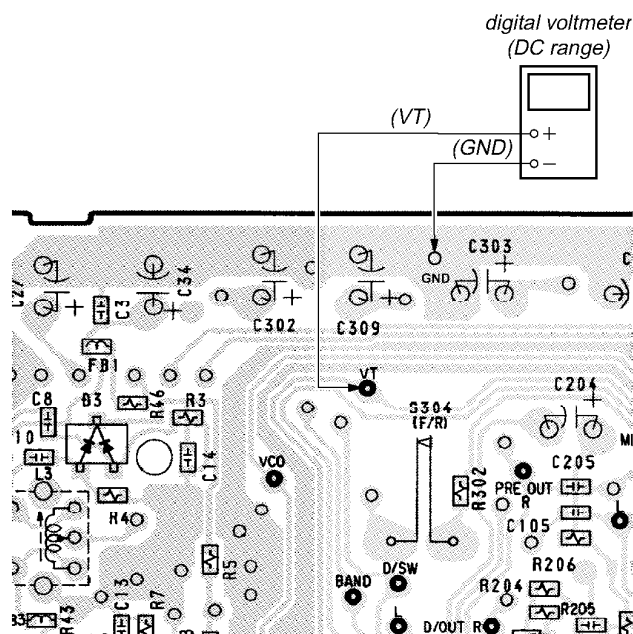
[MAIN BOARD]
 (SIDE B)



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

Frequency Coverage Adjustment
 Setting :

[MAIN BOARD] (SIDE B)



AM IF ADJUSTMENT	
Adjust for a maximum reading on level meter.	
T1	450kHz

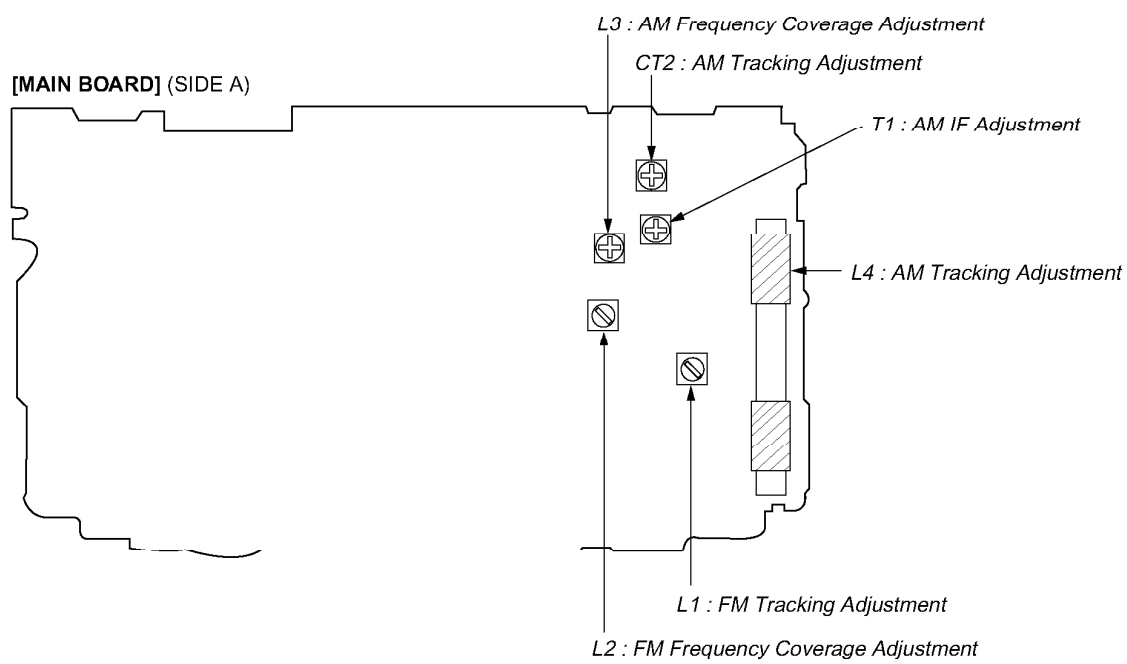
AM FREQUENCY COVERAGE ADJUSTMENT		
Adjust part	Frequency display voltmeter.	reading on digital
L3	530kHz	1.45 – 1.55V

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L4	620kHz
CT2	1,400kHz

FM FREQUENCY COVERAGE ADJUSTMENT		
Adjust part	Frequency display voltmeter.	reading on digital
L2	108MHz	9.95 – 10.05V
Confirmation	87.5MHz	more than 2V

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L1	87.5MHz
Confirmation	108MHz

Adjustments Location :



● **EXPLANATION OF IC TERMINALS** (Service manual See page 10)

IC701 μ PD170172GB-555-1A7 (ND DRIVE, SYSTEM CONTROL) (WM-FX453 : US model only)

Pin No.	Pin name	I/O	Description
1	INIT	–	Not used (Open).
2	BAND AM	O	BAND AM ON selection output.
3	BAND AM	–	Not used (Open).
4	MEGA BASS	I	MEGA BASS ON/OFF input.
5	IF ON	O	IF ON/OFF control.
6			Not used (Open).
7	RADIO ON	O	Radio power ON/OFF control.
8		–	Not used (Open).
9		–	Not used (Open).
10	KEY IN 1	I	Key input.
11	KEY IN 2	I	Key input.
12	KEY IN 3	I	Key input.
13	KEY IN 4	I	Key input.
14	MUTE	O	Mute signal output.
15	DOLBY	O	Dolby ON/OFF control.
16		–	Not used (Open).
17	IF IN	I	IF signal input.
18	GND	–	Ground.
19	EO	O	PLL error output.
20	VCO (AM)	I	VCO input.
21	VCO (FM/TV)	I	VCO input.
22	VDD2	–	Power supply terminal (+3V).
23	VDD1		Power supply terminal (+3V).
24	X0	–	System clock oscillator (75kHz).
25	X1	–	System clock oscillator (75kHz).
26	VDD5	–	Power supply (+3V).
27	VDD3	–	Power supply (+3V).
28	CAP 1	–	Pins connecting capacitors for doubler circuits generating the ND drive voltage.
29	CAP 2	–	Pins connecting capacitors for doubler circuits generating the ND drive voltage.
30	VDD4	–	Power supply (+3V).
31 – 34	COM 0 – 3	O	ND common output.
35 – 49	LCD 0 – 14	O	ND segment drive output.
50	CE	I	The internal reset circuit functions when low becomes high.
51	TAPE ON	I	TAPE ON signal input.
52	BEEP	O	BEEP signal output.
53	KEY OUT 1	O	Key scan output.
54	KEY OUT 2	O	Key scan output.
55	BAND AM	–	Not used (Open).
56	KEY OUT 4	O	Key scan output.